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These game findings reflect the observations, insights and recommendations that were derived from participants during game play.

14. ABSTRACT

Underlying conditions, such as financial, medical, population growth, and climate change, have the potential to stress the littoral regions and coastal environments around the globe. They give rise to crime, piracy, drug and human trafficking, extremism and exacerbate weak or fragile states' ability to respond to natural disasters. For its part the Navy has yet to address the confluence of these underlying conditions in a comprehensive manner. During the period 27-30 July 2010, the United States Naval War College in Newport, Rhode Island conducted a game as a form of qualitative research. The over arching purpose of the Irregular Challenges 2010 Game was to help the Navy better understand the complexity of the problems that it could face in these unstable regions in the maritime environment and to better address how it could respond. Players asserted that pre-crisis activities such as humanitarian assistance, theater security cooperation, and interagency coordination were critical in preventing irregular challenges from intensifying into regional instability.

15. SUBJECT TERMS

Irregular Challenges, Irregular Warfare, Maritime Instability, Theater Security Cooperation, Humanitarian Assistance, Cultural Awareness, War Game

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IRREGULAR CHALLENGES 2010 GAME

GAME REPORT

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U.S. Naval War College
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I. INTRODUCTION

a. Executive Summary

During the period 27-30 July 2010, the United States Naval War College in Newport, Rhode Island hosted the Irregular Challenges 2010 Game. The overarching purpose of the Irregular Challenges 2010 Game was to help the Navy better understand the complexity of the problems that it could face in these unstable regions in the maritime environment and to better address how it could respond. This game could help the Navy better define the choices that it needs to make with regard to how it might operate in a future environment.

Underlying conditions, such as financial, medical, population growth, and climate change, have the potential to stress the littoral regions and coastal environments around the globe. They give rise to crime, piracy, drug and human trafficking, extremism and exacerbate weak or fragile states" ability to respond to natural disasters. For its part the Navy has yet to address the confluence of these underlying conditions in a comprehensive manner. It could be valuable to examine how and why the Navy should or could use its general purpose forces to help mitigate these conditions that are stressing the maritime environment and have the potential to impact the larger system that operates globally on the oceans. While the Navy has multiple inputs to theater security cooperation plans in the different regions, there should be a better understanding of why these forces and capabilities are being used, where they are being used, and what the desired end state of the use of the forces should be.

The Irregular Challenges 2010 Game was structured to explore the following four specific objectives:

- Identify possible benefits and unintended consequences of U.S. Navy activities in maritime instability-oriented irregular challenges *pre*-crisis;
- Identify possible benefits and unintended consequences of U.S. Navy activities in maritime instability-oriented irregular challenges *during* a crisis;
- Identify gaps, seams, and overlaps in U.S. Navy capabilities supporting other nations and organizations in maritime instability-oriented operations;
- Provide an environment for players to explore and appreciate the complexities of decision-making when faced with maritime instability-oriented irregular challenges.

In order to address the mutually agreed upon objectives established by the NIWO and the Naval War College the following overarching research question is proffered in this game:

- What are the issues, challenges, and unintended consequences for the U.S. Navy in engaging in specific activities to counter maritime instability both pre-crisis and in-crisis?

The Irregular Challenges 2010 game was designed to enhance participants‟ understanding of the complexities encountered in addressing irregular challenges in the maritime environment. Moreover, the game served as a vehicle for the War Gaming Department of the Naval War College to inductively generate knowledge in order to develop hypotheses that can be tested in future research. The complexities were presented as stressors and disruptors in two distinct resource scarcity, political instability, and natural disaster scenarios (i.e., West Africa 2017 and South Asia 2030). These two scenarios were designed to provide players with the opportunity to deal with credible crises that may impact U.S. national security interests and disrupt the global economic system. This was not a single continuous game; but rather, was designed to be serial in nature.

A one-and-a-half-sided game was developed in which two independent Blue (player) cells employed strategies and contingencies focused on countering the actions of a notional Red (competitor) embedded in the White or Control cell, the latter of which was integrated into two future oriented scenarios. For each scenario, players engaged in two sequential moves leading to a consequent outcome.

Each Blue cell was comprised of approximately fourteen to sixteen players, who represented various U.S. Navy, Department of Defense, Department of State, non-governmental organizations, and academic institutions. One Blue cell focused on addressing irregular challenges from a U.S. Navy-oriented perspective (Blue #1), while the other Blue cell (Blue #2) explored these same issues from the point of view of a coalition (i.e., cooperative regional or international entity). Both Blue cells strived to build partnerships to address complex problems.

Each cell move consisted of two phases, a problem definition and a planning phase. These facilitated sessions followed a highly inductive approach. Data were collected during the moves on templates and captured by ethnographic recorders. Written feedback in the players‟ own words were obtained during threaded discussions after each move. The overall analytic framing of the Irregular Challenges 2010 game consisted of an inductive, phenomenological process. Although this approach was highly unstructured, the post-game analytic methodology follows a widely-used process referred to as triangulation. Analytic methodologies included content analysis, grounded theory, and data visualization. In this way, player-derived themes were identified at the end of the game and the analysis team explored further implications from the game data during post-game analysis.

Major themes derived by the players included:

Theme #1: Players asserted that the crises described in the scenarios were too large in scale, scope, and complexity to be adequately addressed given existing missions and capabilities.

Theme #2: Players asserted that confronting irregular challenges requires additional capabilities including HA/DR, operational-level C2, maritime intelligence and awareness, lift and sustainment, interagency coordination, TSC, and civil-military relationships.

Theme #3: Players asserted that pre-crisis activities are critical, because waiting to conduct activities once the crisis has commenced will require yet more capabilities.

Theme #4: Although pre-crisis activities are essential, players asserted that the ability to conduct pre-crisis activities is currently limited due to complexity, manifest through insufficient specialized capabilities, lack of authority, and potentially misdirected focus on the part of engagement entities.

According to the players, attributes that describe an effective approach to confronting irregular challenges include:

- being focused on complex and interconnected problems;
- having the ability to address problems as a function of proper understanding of the complexity of the environment;
- having cultural expertise to help understand the complexity of the environment;
- awareness of available capabilities, both military and civilian, to better understand how to address the problems;
- recognizing that problems are best addressed through pre-crisis activities;
- working with interagency, non-government, and international partners in order to address problems; and
- conducting unique missions to address problems such as building partnership capacity to conduct operations not normally associated with security (such as humanitarian assistance and civil affairs).

Insights derived during post-game analysis are broad in nature and intend only indirectly to inform Navy decisions concerning train, man, and equip.

Relationship between Humanitarian Assistance and Confronting Irregular Challenges

Players derived that capabilities to conduct foreign humanitarian assistance were the same ones in many cases that were needed in confronting irregular challenges. As numerously cited in the data, activities were identified by the players in order to address problems associated with a humanitarian assistance mission. Data from all the cells, in both scenarios, and during both pre-crisis and in-crisis moves reflected various activities and problems associated with humanitarian assistance. Furthermore, players identified capability gaps and barriers to conducting humanitarian assistance, such as a lack of ability to respond to maritime disasters, insufficient mobile desalinization plants, scarce ability for port reconstruction, and standard protocols for coordinating with relief organizations. However, the Navy‟s Vision fails to address humanitarian assistance as an outcome, goal, or implementing objective in confronting irregular challenges.

Given the linkage identified in this game between humanitarian assistance and irregular challenges and the premise of the Navy‟s Vision that irregular challenges, if not addressed, have the potential to stress the global network and thus are directly related to national security, an implication may be that humanitarian assistance may be directly linked to national security. Furthermore, given that humanitarian assistance is a core Navy capability, the Navy ability to conduct and support humanitarian assistance activities has implications to confront irregular challenges and to maintain national security.

Given the importance of humanitarian assistance to confronting irregular challenges, it is recommended that further study be conducted to explore the Navy‟s role and capabilities dedicated to conduct humanitarian assistance and its impact to national security.

Cultural Expertise as an Enabling Capability

The analysis team looked at the role of cultural understanding relative to confronting irregular challenges presented during game play as well as in pre-game literature review that explored current Navy activities such as Africa Partnership Station. Various aspects of cultural understanding were evident, to include regional, ethnic, language, and religious aspects to cultural knowledge. While cultural expertise does not directly address problems associated with irregular challenges, cultural expertise enables other capabilities that are required.

Analysis of game data showed the importance of the desired outcome dictated by the Navy‟s Vision for “enhanced regional awareness of activities and dynamics to include a deeper understanding of ethnic, cultural, and socioeconomic characteristics and norms.” But cultural

expertise alone is not an ends in itself, rather it enables maritime forces to conduct activities in order to confront irregular challenges.

Given the importance of cultural expertise in confronting irregular challenges, it is recommended that further study explore how the Navy could effectively and efficiently develop cultural expertise for its forces as an enabling capability to conduct activities in support of confronting irregular challenges and not merely as an ends itself.

Balance between Countering Irregular Challenges and Countering Near Peer Forces

Players seemed to have different perceptions of what constituted a crisis. In other words, the threshold for intervening to a crisis was different for many players. Moreover, analysis of game data reflected that players mentioned conditions of a crisis more often during move 2 (in-crisis) than during move 1 (pre-crisis). Crisis could be best defined as a group of problems with effects that provoke a response, such as regional instability, insurgency, terrorism, or state-state conflict.

As the crisis intensified during game play, players were less focused on conventional warfare concerns, such as state-state conflict, deterrence of near peer forces, and diplomacy. During pre-crisis/move 1 planning, activities were planned with consideration to how outside governments (outside governments are those of nations that rest outside the crisis region depicted in the scenario but had interests in the crisis region) would perceive these activities.

Players assessed that the capabilities or level of effort required would increase as the crisis intensified. For a given point in the crisis, if insufficient capabilities were applied to respond to the crisis, then the likelihood of the crisis intensifying would increase. Capabilities to contain a crisis could come from the host nation, plus any additional capabilities developed by the host nation through building partnership capacity activities, plus assistance from the Navy, Joint, whole of government, and multinational entities. Some players even perceived that the progression of the crisis could get so bad that activities and capabilities to respond to the irregular challenges would be so exhausted and overwhelmed that continual focus on irregular challenges would be futile as conventional war was inevitable.

The Navy"s Vision states that the "Navy must continue efforts to balance emphasis and investments between countering irregular threats and countering near peer forces to successfully meet today"s and tomorrow"s threats and interrelated security challenges." The implications are that irregular challenges and conventional warfare are coupled in a different manner than traditionally thought. If there is an imbalance between countering irregular threats or near peer forces, then there could be risk imbalance. Furthermore, the use of general purpose forces as multi-mission capabilities could even increase the risk as near peer forces could perceive these forces as causing regional instability. The Navy concept for confronting irregular challenges needs to address that a clear end state must be part of the planning process in order to meet irregular challenges through a flexible, agile, and broad array of multi-mission capabilities.

The Role of Strategic Communications in Confronting Irregular Challenges

Analysis of game data suggested that strategic communication was a recurring theme. The Navy‟s Vision does not propose what role strategic communications plays in confronting irregular challenges during an imminent crisis. According to game data, the primary focus for strategic communications seemed to be for influencing the local population of a host nation in order to resolve problems of instability, such as public panic, migration, epidemic, and terrorism. A secondary focus for strategic communications seemed to be influencing the global audience concerning the regional efforts in order to confront problems associated with environmental disaster response, building coalitions, and increasing cooperation of regional and global partners. To a lesser extent, strategic communication activities targeted regional actors and the U.S. public. Problems associated with regional actors included increasing cooperation, countering propaganda, and controlling migration. Problems associated with the U.S. public included environmental response and terrorism issues.

Although further study would be prudent, the game results suggest that strategic communications must be incorporated in theater security cooperation plans and comprised of messages and activities targeted at populations in regions at risk of instability due to irregular challenges in order to facilitate the building of relationships at the local level.

b. Statement of Sponsor's Problem

The Naval War College has worked with the Navy Irregular Warfare Office on the concept of conducting a table top, seminar-style game to address the irregular challenges in the maritime environment. This game would focus on the initial question: why does maritime disorder exist? During discussions between Professor DellaVolpe, Chairman, War Gaming Department, Naval War College, and RADM Greene, Director, Navy Irregular Warfare Office, the issue of the underlying conditions that drive instability in the littorals was raised. These conditions, such as financial, medical, population growth, and climate change, have the potential to stress the littoral regions and coastal environments around the globe. They give rise to crime, piracy, drug and human trafficking, extremism and exacerbate weak or fragile states" ability to respond to natural disasters.

For its part the Navy has yet to address the confluence of these underlying conditions in a comprehensive manner. It could be valuable to examine how and why the Navy should or could use its general purpose forces to help mitigate these conditions that are stressing the maritime environment and have the potential to impact the larger system that operates globally on the oceans. While the Navy has multiple inputs to theater security cooperation plans in the different regions, there should be a better understanding of why these forces and capabilities are being used, where they are being used, and what the desired end state of the use of the forces should be.

Over the past several years, the Naval War College has worked with several fleets to help address the Navy"s engagement strategy. From analysis of these events, the fleets have increased their awareness of the military"s role as part of the theater security cooperation and engagement. The events have also increased the staff"s understanding of the role that these activities play in the strategic communications process. However, the Navy has not looked at this problem from a Service perspective as to how these stressors can impact the global system and thus how they can make the Navy"s mission in protecting that system much more difficult. This game will seek to explore beyond just the engagement activities and their effects, as it will attempt to understand the Navy"s role in addressing the conditions that can create instability and how the Navy could possibly mitigate them.

The overarching purpose of the game would be to help the Navy better understand the complexity of the problems that it could face in these unstable regions in the maritime environment and to better address how it could respond. This game could help the Navy better define the choices that it needs to make with regard to how it might operate in a future environment.

c. Objectives/Rationale for this Study

The Irregular Challenges 2010 Game was structured to explore the following four specific objectives:

- Identify possible benefits and unintended consequences of U.S. Navy activities in maritime instability-oriented irregular challenges *pre*-crisis;
- Identify possible benefits and unintended consequences of U.S. Navy activities in maritime instability-oriented irregular challenges *during* a crisis;
- Identify gaps, seams, and overlaps in U.S. Navy capabilities supporting other nations and organizations in maritime instability-oriented operations;
- Provide an environment for players to explore and appreciate the complexities of decision-making when faced with maritime instability-oriented irregular challenges.

One of the most important functions of war gaming is to answer timely research questions posed by our sponsors. In order to do so, capturing data that are germane to a specific area of interest is critical, because successful data capture enables useful analysis and ensures a symbiotic relationship between game design and subsequent findings.

> "War games can help explore questions of strategy, human decision making, and war-fighting trends…they can often provide the kernel of new theories that can be tested with other tools."
>
> *Peter Perla, Art of Wargaming*

It is important to remember that the role of any war game is to aid the sponsors, participants, and consumer of game results to investigate the processes of combat, not necessarily to calculate the outcome. This is a highly inductive, descriptive game employing the qualitative methodology known as phenomenological study. In essence, this method seeks to understand how a particular event impacted or shaped the views of participants by employs in-depth, focused surveying and broader open-ended facilitation. The game is unique in that the players, military and civilian, would help define the problems that the Navy, United States Government, and international partners might encounter in a future, unstable region. The intent was for the scenarios presented, along with the game design, would provide a rich political-military environment that enabled each cell to explore a wide range of cultural, social, and diplomatic interactions. It is believed that gaming is the most appropriate method to identify, address, and analyze issues posed by these complex problems.

d. Overarching Research Question

In order to address the mutually agreed upon objectives established by the NIWO and the Naval War College the following overarching research question is proffered in this game:

- What are the issues, challenges, and unintended consequences for the U.S. Navy in engaging in specific activities to counter maritime instability both pre-crisis and in-crisis?

e. Subsidiary Questions

What are the problems associated with irregular challenges?

What are the underlying conditions to irregular challenges?

How do these problems impact U.S. National Security/global security?

What maritime activities might address these problems?

What are the issues, challenges, and capability gaps in conducting these activities?

f. Identification of Independent and Dependent Variables

The independent variable in this game concerned each Blue cell„s locus of control (i.e., U.S. Navy-led or Regional/International cooperation (i.e., U.S.-supporting)), while the primary dependent variable concerned the cell„s ability to achieve its stated activities based upon its definition of the problem. In order to focus both Blue cells at the high operational to low strategic level, specific capabilities were aggregated to the greatest extent possible.

g. Definition of Key Terms

Irregular Challenges – threats associated with regional instability, insurgency, crime, and violent extremism (The U.S. Navy‟s Vision for Confronting Irregular Challenges, January 2010)

Irregular Warfare – a violent struggle among state and non-state actors for legitimacy and influence over the relevant populations (Irregular Warfare Joint Operating Concept, Version 1.0, 11 September 2007)

II. GAME DESIGN & RESEARCH METHODOLOGY

a. Discussion of Game Design

The Irregular Challenges 2010 game was designed to enhance participants‟ understanding of the complexities encountered in addressing irregular challenges in the maritime environment. Moreover, the game served as a vehicle for the War Gaming Department of the Naval War College to inductively generate knowledge in order to develop hypotheses that can be tested in future research.

As a phenomenologically based project, the emphasis of game design was to create an atmosphere where the perspectives and experiences of the players could be recorded for subsequent post-game analysis. Data were captured primarily through ethnographic (i.e., observed) collection by trained environmental recorders in the cells, and via self-declared player insights garnered through extensive, in-depth, unstructured interviews focusing on distinct issues and challenges. These stressors and disruptors were found in two distinct resource scarcity, political instability, and natural disaster scenarios (i.e., West Africa 2017 and South Asia 2030). At the conclusion of the game, the Data Collection and Analysis Team (DCAT) applied a variety of qualitative tools and techniques to aggregate data and identify key themes that may prove of interest to the sponsor for future research, policy making, and resourcing purposes.

Phenomenology provides a philosophical basis for qualitative research, holding that the subjective experience, rather than objective observation, is the key to deep understanding. The underlying assumption is that there are multiple ways of experiencing and interpreting the same scenario, and that the meaning of the phenomena to each person is what constitutes reality.

Purely phenomenological studies describe and interpret the experience of people in order to understand the essence of the experience as perceived by those studied. Thus, participant perspectives are the focus of the research. Individuals are selected as participants based on their experience with the phenomena being studied, and their willingness to be interviewed and observed. Typically, a series of extensive, in-depth, unstructured interviews with the participants provides the data for the research. In analyzing phenomenological data, researchers must restrain from describing from their perspective and use the participants‟ language, terms, and phrases to illustrate shared meanings and consciousness.

b. Game Mechanics

To foster a setting favorable to phenomenological research, a one-and-a-half-sided game was developed in which two independent Blue (player) cells employed strategies and contingencies focused on countering the actions of a notional Red (competitor) embedded in the White or Control cell, the latter of which was integrated into two future oriented scenarios. These two scenarios were designed to provide players with the opportunity to deal with credible crises that

may impact U.S. national security interests and disrupt the global economic system. This was not a single continuous game; but rather, was designed to be serial in nature. Players engaged in two sequential moves leading to a consequent outcome. At the conclusion of these two moves, game one concluded. Both cells were subsequently afforded the opportunity to independently reconsider their problem definition and planning strategy at the end of the first game prior engaging in the second game. However, game two was independent of game one (i.e., the actions undertaken in the first game did not carry over into game two).

Each Blue cell was comprised of approximately fourteen to sixteen players, who represented various U.S. Navy, Department of Defense, Department of State, non-governmental organizations, and academic institutions (attendees listed in Appendix A). One Blue cell focused on addressing irregular challenges from a U.S. Navy-oriented perspective (Blue #1), while the other Blue cell (Blue #2) explored these same issues from the point of view of a coalition (i.e., cooperative regional or international entity). Both Blue cells strived to build partnerships to address complex problems.

The overall structure for each move in each scenario consisted of two distinct phases (schedule of events listed in Appendix B). The first phase consisted of problem definition, while the second phase was comprised of a planning process in which each Blue cell determined which activities were best suited to address the problems encountered in the scenario. The problem definition phase consisted of a highly inductive process. The players employed their considerable expertise to define the problems with which they were presented in a relatively unstructured, non-attribution environment.

At the completion of the planning phase, both Blue cells #1 and #2 responded to facilitator-led questions designed to get to the crux of the phenomena they had encountered, and to help capture some of the rationale behind their decisions. These facilitated sessions were conducted by two Naval War College professors from the White cell, charged with fostering robust discussion among the players and ensuring the cells adhered to the time stamps found in the game‟s play book. Each cell also consisted of DCAT members tasked as ethnographers and template control officers. Subsequently, the White cell assessed what worked and did not work based on the templates provided by the two Blue cells. These findings were subsequently briefed back to the two Blue cells prior to the second phase (i.e., planning) in the scenario. Thus, the two Blue cells were held accountable for their decisions and required to deal with their associated consequences in the second phase.

Immediately thereafter in the planning phase, the two Blue Cells used their creativity to develop what actions need to be taken. While the Blue cells were engaged in their problem definition and planning processes, the White cell with its imbedded Red element engaged in comparable activities; primarily from the perspective of how Blue‟s efforts could be disrupted. Through the use of facilitated discussion sessions captured via the WebIQ software application, participants in both Blue cells had an opportunity to further define the problem, discuss their pre-crisis and

in-crisis problem definition and planning activities; respond to scenario updates assessed and presented by the White cell; and to identify ways and means to resolve conflicts or mitigate effects linked to unintended consequences of players‟ actions. A visual depiction of the game design and flow process can be found in figure 2.1.

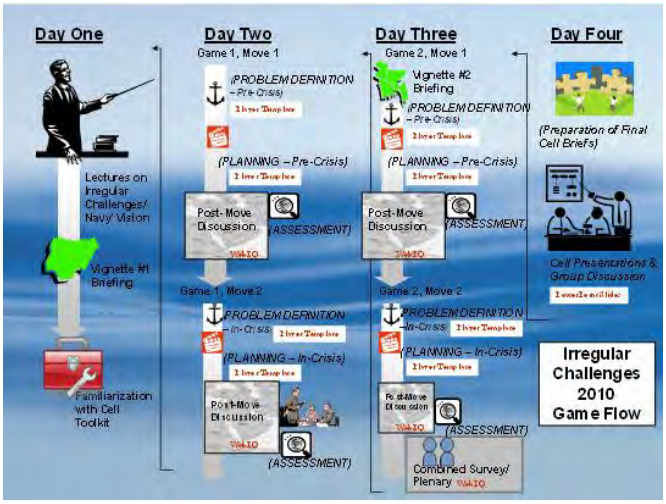


Figure 2.1 Game Flow Process

For each move, players in the two Blue cells developed the following three core products:

- **Move Templates:** Separate Microsoft Word-based move sheets were generated in each cell for the problem definition and planning phases of the game, saved electronically in a folder on the Unclassified GAMENET, and routed to the White cell for post move assessment. Although players directly contributed to the final templates, their production was facilitated by a Template Control Officer (TCO) in each cell, thus allowing the players to stay engaged in move-based discussion rather than stepping out-of-role to complete the templates. The templates for blue cell, problem definition and planning, are included in Appendix C. Each template afforded Blue cell players the opportunity to perform the following:
    - Identify issues, challenges, and unintended consequences (i.e., gaps, shortfalls) with respect to capabilities in performing maritime security, stability operations, and building partnerships;
    - Prioritize areas of importance with respect to performing maritime security, stability operations, and building partnerships;
    - Determine the implications of those prioritized choices or the lack of choices;
    - Suggest actions that may lead to stability;
    - Make choices that help inform Navy decision-makers for the future;
    - Begin the process of addressing shared interests and challenges with international partners.

- **Focused Discussion Sessions:** Blue cell players actively participated in focused, cell-based discussions with a team of facilitators from the White cell. The facilitation team for each cell was comprised of one CIWAG faculty member and one War Gaming Department faculty member. In essence, the problem definition‖ and planning templates served as a jumping off point for the game„s follow-on, highly inductive facilitator-guided discussions and subsequent plenary sessions. The focus of these sessions was on the exploration of capabilities, benefits, and unintended consequences of engaging in maritime security, stability operations, and building partnerships within the context of each of the vignettes provided to the players (i.e., West Africa and South Asia). These sessions were self-recorded by players in WebIQ using a threaded discussion format, in which players commented on each other„s thoughts or start a new item for discussion. However, because it proved difficult to write and talk simultaneously, in order to ensure that players were provided ample time to provide written responses for post-game analysis, at various points in the discussion Blue cell facilitators engaged in reflective activities such as stream of consciousness writing exercises, where players were provide two to three minutes of complete silence to continuously record their thoughts or insights and theme capture activities, where players scrolled the list of items recorded in WebIQ or on the white boards and chart packs to identify key themes or emerging issues.
- **PowerPoint Flag Out brief Slide(s):** Final PowerPoint out briefs were generated and presented by each Blue player cell on the final day of the game (30 July 2010). The two Blue cell final deliverables are found in Appendix D of this report.

With respect to the White cell, because this team served as the assessment/ game play catalysts for Blue actions and activities throughout the game, their contributions during both phases of the Blue cells‟ moves, problem definition and planning, were critical for post-game analysis. The primary deliverables for the White Cell were the assessment templates which evaluated templates produced by the two Blue player cells. In addition to the assessment templates, two ethnographers were assigned to the White cell in order to record subject matter experts„ observations and insights germane to game play. To effectively capture their outputs, these observations were recorded via open notes in Microsoft Word. All data collected for the White cell were routed to the DCAT for post-game analysis.

In addition to the deliverables for each move, prior to the start of the game, the two Blue cells‟ participants and White cell team members completed a background survey (Appendix E) comprised of questions designed to gather data about the subject„s background and experience. This survey, which was conducted on 27 July 2010, also afforded players the opportunity to familiarize themselves with the WebIQ software application prior to executing their first move the ensuing day. All of the questions included in the baseline survey were pre-tested (along with assessing overall instrument efficacy) during the Alpha and Beta tests with a ―small sample of individuals from the population [being studied]…or one very similar to it. Great care was placed to ensure survey questions did not presuppose a desired outcome on the part of the researchers

and did not skew the agenda. Survey questions featured a variety of Likert-style (fixed-choice), open-ended questions.

c. Analytic Framing

The overall analytic framing of the Irregular Challenges 2010 game consisted of an inductive, phenomenological process. Although this approach was highly unstructured, the post-game analytic methodology follows a widely-used process referred to as triangulation. Current thinking in the field of social research suggests that a variety of analytic tools should be employed in behaviorally based activities such as war games, thus maximizing the credibility of the work. One widely accepted methodology that takes advantage of multiple techniques is triangulation. This approach allows the researcher to derive the same or very similar conclusions using different datasets or methods. Much of the strength of triangulation stems from its ability to distinguish between the idiosyncratic…and the representative. Moreover, this method also allows the researcher to base inquiry in the assumptions being used and evaluate questions with the appropriate methodology, rather than the methodology driving the evaluation.

Consistent with this approach, the seven data streams collected during this game incorporated a variety of research procedures into subsequent analysis. A brief description of each analytic tool follows.

- **Content Analysis**: Described as a method whereby a researcher seeks objectively to describe the content of communication messages that people have previously produced, this approach involves identifying coherent and important examples and patterns in the data and subdividing data into coherent categories, patterns, and themes, as supported by player actions, comments, or White cell assessment.
- **Grounded Theory:** A more detailed, methodologically sound approach to analysis than the initial step of content analysis, grounded theory employs systematic, hierarchical procedures to develop inductively derived theory grounded in data. Grounded theory directs researchers to look for patterns in data so that they can make general statements about the phenomena they examined. For the purposes of this game‟s analysis, the Data collection and Analysis Team employed an inductive, theory discovery methodology that allowed the researchers to develop a theoretical account of the general features of a topic while simultaneously grounding the account in empirical observations or data.
- **Data Visualization:** Post game, by comparing and contrasting the players‟ activities in the areas of maritime security, stability operations, and building partnerships within the context of capabilities, benefits, and intended consequences, overlapping the Venn diagrams produced in the two Blue cells and developing link charts in i2 Text Chart and Analyst‟s Notebook, respectively, the Data collection and Analysis Team was able to

identify gaps, seams, and overlaps in U.S. Navy actions supporting other nations and organizations.

d. Collection Approach

The Irregular Challenges 2010 Game was constructed in a manner that ensured that the overarching research question (i.e., What are the issues, challenges, and unintended consequences for the U.S. Navy in engaging in specific activities to counter maritime instability both pre-crisis and in-crisis?) was adequately addressed. In order to do so, seven data streams were collected during the game. All of the Data Collection and Analysis Team members involved in these collection efforts received instruction in proper data capture techniques during a pre-game bootstrap session held on 27 July 2010.

These seven data streams were analyzed in this game were deemed descriptive because they reveal the nature of certain situations, settings, processes, relationships and systems. Accordingly, they were aggregated and assessed in order to clarify the information that has been gathered. Lastly, quality assurance/quality control of the two Blue cells and the White (assessment) cell datasets was conducted in order to ensure that consistency for coding and grounded induction was present.

III. ANALYSIS & RESULTS

a. Summary of Game Moves

Game play was conducted over a two-day period, one day dedicated to each scenario explored. The details of the scenarios presented to the players are contained in Appendix F. For each scenario, the cells completed two moves.

The following summary outlines what the players did and said during the moves during game play:

Scenario 1 (West Africa) – Move 1 (Pre-crisis)

Blue #1 (U.S.-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Oil security – spill and access	Spill response, energy infrastructure protection, maritime domain awareness
Maritime security	Port security training, maritime domain awareness, holistic approach along the Maritime Security Sector Reform (MSSR), law enforcement assistance to Naval operations
Governance	Humanitarian assistance
Management of natural resources	Humanitarian assistance, multi-national operations, fisheries sustainment operations and support
Economic	Civil affairs, port and maritime infrastructure projects
Climate change	Conduct more research
Negative influence from outside governments (China)	Strategic communications
Challenges of building coalitions	U.S. must take the lead

Blue #2 (International-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Food	Humanitarian assistance, strategic lift of non-government/international organizations/private organizations, port security
Oil	Spill response, counter-insurgency, hold industry responsible
Lack of cohesive coalition	Identify cooperative and capable partners, need formal mandate
Security	Maritime domain awareness, information sharing, critical infrastructure protection, build government capacity
Disease	Civil affairs, humanitarian assistance
Host nation government	Engagement, cultural/regional awareness, maritime domain awareness
Factions	Maritime domain awareness, diplomacy, lessons learned
Negative influence from outside governments (China)	Bilateral operations with China
Environmental degradation	Building partnership capacity, civil affairs
Public perceptions	Information sharing, build trust, multi-national operations

White Cell players identified problems and pertinent stakeholders given the scenario. Then upon review of the summary of problems and activities planned by the Blue cells, the White Cell players determined what would be the worst case scenario that could occur if the problems were not addressed. The scenario progressed such that both Blue Cells would need to respond to the same crisis. The crisis involved a massive regional epidemic (10% population died) coupled with a mass migration across regional borders that pose a threat of regional conflict and possible government collapse. For Blue #1, a request for assistance by the host nation to the U.S.-led coalition served as the guidance for crisis response. For Blue #2, a UNSCR to intervene served as the guidance for crisis response.

Scenario 1 (West Africa) – Move 2 (In-crisis)

Blue #1 (U.S.-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Public safety	Long-term building partner capacity, humanitarian assistance, work with international government organizations (IGOs), governance stability
Public health	Medical assistance, containment
Migration	Intelligence/Surveillance/Reconnaissance (ISR), internally displaced persons (IDP) camps
Security	Expeditionary law enforcement, regional organizations
Communications	Maritime command and control platforms, information operations technology, information operations campaign
Regional tensions	Coalition building, diplomacy
Transportation infrastructure	Maritime logistics projection to shore
Economic disruption	Oil infrastructure security, international oversight of oil exports during crisis
Factions	Humanitarian assistance, work with non-government organizations (NGOs), foreign internal defense (FID) assistance

Blue #2 (International-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Epidemic containment	Humanitarian assistance, DHS pandemic planning, border security
Insufficient mortuary capacity	Strategic communications
Food/water shortages	Humanitarian assistance, civil affairs, logistics, new technologies
Global oil economy instability	Find excess capacity elsewhere in the world
Violence	UN forces for law enforcement, NGOs must self-protect
Government instability	UN provisional government, anti-corruption measures

Strategic communications issues	Empower local information operations, refrain from conducting non-combatant operations (NEO), improve communications infrastructure

White Cell players assessed that Blue #1 was not addressing the underlying causes of the problems and the efforts were temporary in nature. However, Blue #1 plan of activities to empower the local institutions in order to deal with the crisis were assessed as effective. Conversely, Blue #1 plan of activities to work with regional governments and organizations were assessed as ineffective. Even though the crisis was a regional problem, a regional approach lacks the capability to deal with it. The Blue #2 plan to quarantine was assessed to be ineffective. However, the humanitarian assistance efforts showed ingenuity and assessed as effective due the fairness of the process and message to the people.

Scenario 2 (South Asia) – Move 1 (Pre-crisis)

Blue #1 (U.S.-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Regional conflict prevention	Intelligence sharing, regional engagement, long-term economic development
Intra-India conflict	Humanitarian assistance only, diplomacy
Nuclear proliferation	Maritime proliferation security measures
Terrorism	Building partnership capacity (BPC) and foreign internal defense (FID) for counterinsurgency (COIN)
Maritime security	Maritime domain awareness (MDA), port security training, regional coalition
Sea lines of communication (SLOC) protection	Multinational operations
Disease	Logistics support, DHS pandemic preparations
Global stress	Strategic communications, international mandate
Bangladesh as failed state	Humanitarian assistance

Blue #2 (International-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Scale of humanitarian crisis	Sea based security, humanitarian assistance, medical assistance, logistics, lift, port opening, intelligence/surveillance/ reconnaissance (ISR)
Maritime Instability	Maritime security operations, law enforcement, diplomacy, maritime domain awareness (MDA), coalition building
Regional Instability	Coalition building, diplomacy, strategic communications
Water stress	Humanitarian assistance, civil affairs, diplomacy
Public Panic	Strategic communications, psychological operations (PSYOPS), communications infrastructure
Migration	Humanitarian assistance, legal clarification of IDPs/refugees, coalition operations
Sensitive Command and Control (C2) Issues	Sea based C2 platforms, establish common operating picture (COP), coordination with shore based NGO/IGO

White Cell players assessed a major problem from the scenario involved the India-China competition and how U.S. relations with both nations would factor in the strategy. Also, extensive debate over terrorism occurred; whether it was a cause or effect. Furthermore, the degree to which a cell minimizes the maritime migration would be the degree to which it contains catastrophe. The White Cell agreed with the Blue #1 assessment and plan, but felt it lacked addressing the potential for "loose nukes" and how to prevent Bangladesh becoming a failed state. The White Cell felt Blue #2 had better assessed how water management was an underlying cause of the problem, but had not addressed how the interaction of nation states would impact their activities. The White Cell tried to develop a move two update for both cells that would force them to address the issues they felt were overlooked. Additionally, both Blue Cells would have to react to a major category 5 cyclone that hits Bangladesh.

Scenario 2 (South Asia) – Move 2 (In-crisis)

Blue #1 (U.S.-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
China mobilizing on Indian border	Intelligence/Surveillance/Reconnaissance, regional coalition building, diplomacy
Information flow/communications	Imagery assessment, expeditionary command and control (C2), public affairs/media engagement
Famine/drought/disease	International HA/DR
India-Pakistan tensions	Diplomacy

Blue #2 (International-Led) players identified the following problems and determined what activities or capabilities would address these problems:

Problems	Activities/Capabilities
Humanitarian crisis	Port opening, civil affairs, logistics, non-combatant operations (NEO) planning
Maritime Instability	Maritime refugee response, counter-piracy, counter-terrorism, counter-smuggling, ISR/MDA, information sharing, command and control (C2) at sea
Regional Instability	Diplomacy, establish "World Water Regime"
Water stress	Establish "World Water Regime", civil affairs, expeditionary water treatment systems
Strategic communications	Elevate the message as a world crisis

White Cell players had insufficient time during the last move to assess both Blue Cell plans. However, they did discuss the problems and necessary activities relative to the scenario update. There was extensive discussion over the diversion of water. Is the diversion of water a problem because it causes a number of irregular challenges or it signals an act of war between two regional powers? Furthermore, there was discussion concerning what the criteria is for the U.S. and international community to respond with humanitarian assistance/disaster response. Given a significant amount of problems facing the groups, the White Cell assessed that whatever the activities planned by the Blue Cells would need to have strategic communications as a critical element of the plan.

Post-Game Play Sessions

Upon completion of game play, the players were able to reflect on their experiences and provide lessons learned derived from game play. Both Blue Cells participated in a combined plenary session to discuss lessons learned from game play. Then, while in separate cells again, the players produced outbrief summaries (Appendix D) that were presented to the flag panel on the final day.

b. Analysis of Game Moves

This section provides an overview of the main themes that the players derived as justifications for the activities they discussed. The analysis team explored these player-derived themes and compared them to the data from game play.

Players, through an inductive reasoning process, derived a number of hypotheses or themes throughout the game and coalesced on the final day of game play. Then, the analysis team utilized a grounded theory approach whereby themes were identified through a process of constant comparison and then tested throughout the data. Moreover, the relevance of the themes was determined by linking the themes to the Navy‟s Vision for Confronting Irregular Challenges in the Maritime Environment (Navy‟s Vision). This method attempts to operationalize the Navy‟s Vision and inform leaders on the Navy‟s role in confronting irregular challenges.

Theme #1: Players asserted that the crises described in the scenarios were too large in scale, scope, and complexity to be adequately addressed given existing missions and capabilities.

The assertion that the crises were too large held true for both the U.S.-led and the U.S.-supported coalition cells. The players felt neither the U.S. nor an international entity could handle the confluence of problems caused by irregular challenges. As one player noted, “no one has this capacity, it needs to be the result of a coordinated approach.” This player‟s observation is consistent with the implementing objective of the Navy‟s Vision that emphasizes “interoperability and effectiveness for confronting irregular challenges across U.S. government, public, private, and international partners.” Although the game was designed to challenge the players with multiple distinct problems, the players assessed the problems to be interrelated and potentially overwhelming if confronted from a single line of operations. A new way of operating coupled with increased capacity would be required to mitigate the effects of such an overwhelming crisis.

The game data suggests that the Navy must conduct unique missions with specialized capabilities in order to address irregular threats. Unique missions include activities not within the normal range of missions for the Navy and require specialized capabilities, such as for civil affairs, disaster response, infrastructure protection, force protection for NGOs, port security and law enforcement. This insight supports the Navy‟s Vision which recommends providing

"Combatant Commanders with applicable naval capabilities to support critical mission requirements outside the scope of Navy core mission areas." Furthermore, the capabilities needed must support a whole of government and international approach to confronting irregular challenges. The ability to work with private organizations characterizes the unique environment involved with dealing with the underlying causes of irregular threats. In this way, the players attempted to better define the Navy role for confronting irregular challenges.

Given the barriers that face any intervening entity, the Navy may be better suited to overcome the barriers to interdicting and engaging in order to confront irregular challenges before they escalate to crisis. Since the Navy is forward-deployed and maintains presence on a persistent basis, it is in a better position to preempt a crisis or set conditions to effectively react. Overall, the players supported the premise that a confluence of irregular challenges, if not mitigated, could create a potential for regional conflict and stress to the global system.

Theme #2: Players asserted that confronting irregular challenges requires additional capabilities including HA/DR, operational-level C2, maritime intelligence and awareness, lift and sustainment, interagency coordination, TSC, and civil-military relationships.

The players were asked to identify gaps, seams, and overlaps in U.S. Navy capabilities supporting other nations and organizations in maritime instability-oriented operations. The analysis that follows attempts to explain why the players perceived these additional capabilities were needed given the scenarios presented.

Humanitarian Assistance/Disaster response (HA/DR)

Players derived as underlying conditions for many of the irregular challenges depicted in the scenarios to be associated with climate change, disease, water stress, and natural disasters. This assessment is sobering since preventive solutions to these underlying conditions do not currently exist. Thus, it can be said with confidence that the need to respond to humanitarian crises and natural disasters will persist in the future strategic environment. In the maritime context, lack of ability to respond to maritime disasters, such as massive oil spills, proved to be capability gaps in mitigating the irregular challenges that emerge. The Navy"s Vision does not include HA/DR activities in order to address underlying conditions of irregular challenges, except to suggest that "general and special purpose forces are immediately applicable to the broad array of capabilities required to achieve regional security and stability." The players assessed that irregular challenges could only be addressed by dealing with the HA/DR problems identified in the scenarios. Activities proposed by the players included deploying medical assistance assets, water production and distribution, and joint operations for disaster response.

Players derived that if HA/DR problems are not addressed, then permanent mitigation of irregular challenges would not be achieved. Humanitarian assistance was deemed to be a needed activity by all cells in both scenarios as well as for both the pre-crisis and in-crisis moves. The problems identified during the pre-crisis moves included poor governance, insurgency,

management of natural resources, food/water shortages, disease, and migration. The problems identified during the subsequent move as the cells reacted to a crisis included public safety, internal threats from factions, food/water shortages, and epidemic containment.

Further implications of the role that humanitarian assistance has in confronting irregular challenges are discussed in Section IV.

Operational-Level Command and Control (C2)

Players concluded that the crises depicted in these scenarios were so big that they exceeded the maritime-based capabilities that would be available to respond. Since the complexity and confluence of irregular challenges were too large and difficult to address with any set or series of tactical actions or missions, it would require operational level coordination of a joint, interagency, and multinational effort. The Navy"s Vision for Confronting Irregular Challenges in the Maritime Environment depicts as a goal to "enhance and formalize interoperability with U.S. government, public and private organizations, allied maritime and land forces, and regional partners." The players seemed to acknowledge that, in order to employ the broad capabilities of organizations, agencies, and partners, coordination at the operational-level needs to be available on a persistent basis as well as enhanced rapidly at the onset of a crisis. For example, "rapidly deployable C2 nodes" were cited as general capabilities required since the communications infrastructure will be immature in regions of instability. Without effective command and control, unity of effort would not be realized and a compilation of distributed efforts would be ineffective in mitigating the effects of the irregular challenges. Operational command and control proves imperative to effectively and efficiently manage the resources that are sent to respond to the crises.

Maritime Intelligence and Awareness

Players derived general problems to be a lack of ability to capture, analyze, and distribute data associated with the scenarios. In the maritime context, the lack of maritime domain awareness (MDA) and inability to share information were attributed as capability gaps. The Navy"s Vision depicts as a goal to "improve our regional awareness and understanding of complex environments and challenges through intelligence and information systems". Players suggested that additional intelligence, surveillance, and reconnaissance (ISR) and MDA capabilities were needed given the scenarios. Four mission areas indicated the need to have ISR/MDA capabilities assist in conducting these operations: the need to conduct maritime security, the need to support good governance, the need to conduct humanitarian assistance, and the need to prevent regional conflict. For example, the Automatic Identification System **(**AIS**)** was cited as a capability that would have improved maritime security during energy infrastructure protection or counterinsurgency operations. Likewise, situational awareness developed from ISR/MDA capabilities would assist the effort to conduct spill response and migration containment operations as part of the humanitarian assistance effort.

Lift and Sustainment

Players derived that activities required to address problems associated with the scenarios included maritime transportation and logistics. The speed and scale of maritime response were critical factors in desired response to dealing with stabilizing the regions. The Navy"s Vision highlights "Navy"s global maritime access and sustained presence" which requires "neither a footprint ashore nor infringement" on a partner"s sovereignty. The primary activity during game play concerned responding to a humanitarian crisis. The ability to rapidly respond to the crisis coupled with the need to conduct logistic operations from the sea proved necessary to prevent the humanitarian crisis from creating larger, more complex irregular challenges. For example, players cited Joint Logistics Over the Shore (JLOTS) capability as necessary to respond to the crisis due to the destruction of port infrastructure and transportation network ashore.

Interagency Coordination

Players suggested skill sets that exist outside of normal military organizations, such as linguistics, cultural, and economics expertise, are needed to support activities focused to address irregular challenges. A common theme throughout the game concerned the need for increased interagency awareness and coordination. The Navy"s Vision alludes to this imperative by outlining the need to "leverage Navy"s multi-mission capabilities with other services, interagency and coalitions". Furthermore, many of the activities proposed by the players were consistent with the mission of the U.S. Coast Guard which lacks the capacity to respond in such areas. Thus, player intentions were aligned with the Navy"s Vision which suggests integrating and coordinating "efforts with U.S. Marine Corps and U.S. Coast Guard in support of the imperatives and approaches in the Maritime Strategy." It was repeated during the game that many of the activities needed to address problems may not be core Navy missions. Many of these activities, such as HA/DR and maritime security, are now Navy missions, but probably need to be better defined. Players had wide agreement that "no single entity can handle" the problems associated with irregular challenges at this scale. Reliance on working with other agencies such as the Coast Guard and Marine Corps was essential.

Theater Security Cooperation

Players asserted that dealing with irregular challenges is much easier if there is cooperation with the host nation and regional partners. Additionally, any activities that the host nation could conduct to confront the irregular challenges themselves would relieve the burden on outside forces to react to a crisis. Therefore, players planned to set conditions during the pre-crisis phase through conducting missions associated with theater security cooperation, such as civil affairs, foreign internal defense, maritime security, engagement, and building partnership capacity. Many of these theater security cooperation activities differ from traditional engagement activities in that they are focused on underlying conditions rather than on improving internal defense. Once a crisis occurs, port rebuilding and port security capabilities would be needed. The Navy"s Vision describes the goal of building partner capacity "by forming enduring, trust-based

relationships, promoting shared interests in collective security, and providing training and resources to enhance indigenous security force capacity." However, the players felt that a shift in focus is warranted for TSC activities. As one player noted, "working with partner nations should be done with the objective in mind of future disaster and/or relief situations. Focus on security is important but should not be done without awareness of working with these nations to assist a potential natural/humanitarian disaster." Another player suggested that the "Navy says all missions all the time, but in reality it is a war fighting focus that adapts as needed to missions but in an ad hoc way not in a systemic way." These player insights suggest that irregular challenge missions and the corresponding capabilities to conduct these missions should be elevated to a level whereby these efforts should not be executed as an afterthought with excess capacity of general purpose forces.

Civilian-Military Relationships

Players suggested that the scope of the irregular challenges depicted in the scenarios required activities outside the scope of Navy core mission areas. The Navy"s Vision calls for providing applicable naval capabilities to support critical mission areas and enhance interoperability with public and private organizations. In a maritime context, players planned for civilian augmentation of military sealift capabilities and establishment of commercial maritime partnerships. In a larger context, support of non-government organizations (NGOs) would be needed. Since the military lacks much of the expertise, players assessed that working with civilian organizations would be essential to address many of the underlying conditions that cause irregular challenges in the maritime environment. In determining the activities of other agencies and organizations, the Navy can determine its role in supporting civilian operations. Furthermore, players derived as an issue to be paucity within the military services of skill sets associated with economics, linguistics, and diplomacy.

Theme #3: Players asserted that pre-crisis activities are critical, because waiting to conduct activities once the crisis has commenced will require yet more capabilities.

Players recognized that the problems only get worse and more complex if not addressed early. Activities had to be conducted before the problems elevated to a crisis stage. In other words, it may be too late to effectively mitigate the effects of irregular challenges unless pre-crisis activities have been performed. These pre-crisis activities extend not only beyond simply planning, but rather, warrant actual efforts to build capacity with host nation regional partners.

The following statements from players, in their own words, were captured during the game and support the insight that activities to confront irregular challenges must occur pre-crisis:

> "This is exactly why underlying causes for instability need to be addressed and examined starting NOW. If we were to skip this step all we will be doing is reacting to situations, which will not solve the problem, merely create a temporary solution."
>
> "Building those partnerships on a proactive, pre-crisis basis rather than reactively."

> "Coalition building must be intuitive in everything we do, not simply a crisis-generated necessity. Time to build relationships is always."
>
> "It is important to build partner capacity pre-crisis so they are net-contributors vice net-users."

The underlying conditions that needed to be addressed by theater security cooperation efforts concerned poor host nation relationships, lack of cultural understanding, lack of political access, and general partner incapacity through weak governance. Therefore, pre-crisis actions were limited due to factors of complexity, lack of authority, and insufficient capabilities by both the host nation and engaging organizations. These limiting factors are challenges to be overcome during pre-crisis actions, but the players concluded that pre-crisis activities are generally easier to address than reacting to a crisis.

Theme #4: Although pre-crisis activities are essential, players asserted that the ability to conduct pre-crisis activities is currently limited due to complexity, manifest through insufficient specialized capabilities, lack of authority, and potentially misdirected focus on the part of engagement entities.

Players agreed that "problems get worse and more complex and must address them before they get to this point." Furthermore, players asserted that "Irregular Challenges are the product of a complex set of factors and so aren't amenable to solution by short term actions." The game data showed there was a strong linkage between complexity and pre-crisis cooperation to address problems associated with irregular challenges. However, many challenges were identified in conducting pre-crisis cooperation, such as "authority to address problems is often very limited pre-crisis."

Players asserted that complexity manifested itself because problems associated with irregular challenges seem to be connected with each other. For example, "things which are challenges in that domain are all essentially symptoms of problems with the larger system of governance, including the security system." To overcome this complexity, forces need specialized capabilities to engage with partners and focus on building their capacity to confront irregular challenges before a crisis emerges.

Figure 3.1 depicts the relationship across the themes derived by the players during the game. It suggests where the focus of confronting irregular challenges should be, based on the confluence of who, what, and when to conduct the activities discussed during the game. The focus of irregular challenges is a function of having capabilities to conduct joint, interagency, and multinational operations before a crisis emerges.

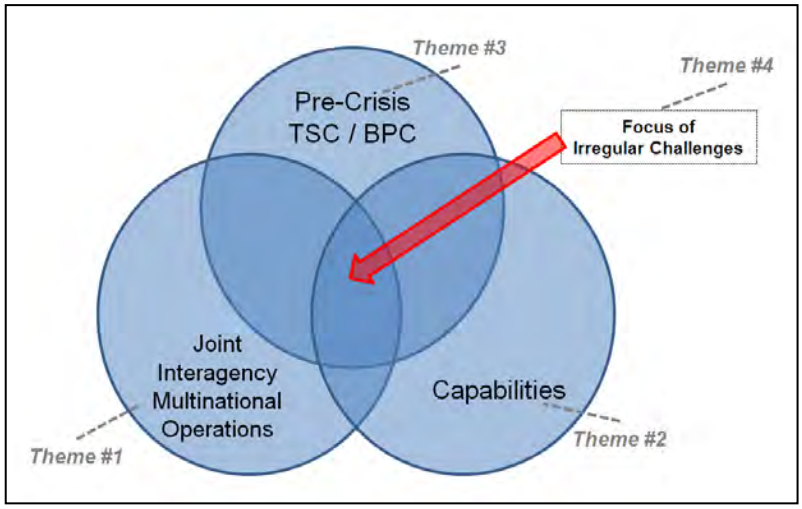


Figure 3.1 Focus of irregular challenges

According to game data, attributes that describe an effective approach to confronting irregular challenges include:

- being focused on complex and interconnected problems;
- having the ability to address problems as a function of proper understanding of the complexity of the environment;
- having cultural expertise to help understand the complexity of the environment;
- awareness of available capabilities, both military and civilian, to better understand how to address the problems;
- recognizing that problems are best addressed through pre-crisis activities;
- working with interagency, non-government, and international partners in order to address problems; and
- conducting unique missions to address problems such as building partnership capacity to conduct operations not normally associated with security (such as humanitarian assistance and civil affairs).

c. Limitations of Game Design and Analysis

One of the greatest challenges for the Naval War College, War Gaming Department is to develop a game that provides the robust insights into an issue or problem sought by the game‟s sponsor. Accordingly, managing stakeholder expectations about what final game report will tell them with respect to broad-based implications is essential. Stakeholders often seek findings that will provide them with predictive conclusions for decision-making purposes. Unfortunately, war gaming is a predominately descriptive process because war games are not experiments. Even if a

game is repeated, it lacks sufficient controls over player inputs and the central limit theorem for a distribution to ensure validity. In other words, sponsors should not attempt to draw inferences beyond what a specific group of players did in a particular game to yield generalizability (i.e., the ability to apply the findings observed for a small population to the broader world around us).

Such is the case in the Irregular Challenges 2010 game. This project was designed to be a highly inductive, lightly structured project analyzed primarily using open-ended, qualitative techniques. Specific themes were discerned as a result of post-game analysis, and gaps, overlaps, seams, and outliers were identified using grounded induction, content analysis, and data visualization. However, no inferentiality or generalizability can be assumed based on the results of this game.

The value gained from the interpretation of insights derived from game play results from the ability to develop new kernels of theories concerning confronting irregular challenges. From these new theories, hypotheses about implementing the Navy‟s Vision can be constructed and tested in future research efforts, such as through gaming efforts. In this way, the inductive process conducting during Irregular Challenges 2010 Game will set the conditions to be tested in future deductive processes and games.

Analysis effectiveness of a research effort, such as this game, can be measured in terms of the internal and external validity of the analysis. Internal validity refers to the extent that cause-and-effect relationships identified in the game can be inferred from collected data. External validity refers to the extent that the results in the game accurately reflect the external conditions in the real-world. A number of potential threats to internal and external validity need to be accounted for and the analysis effort must attempt to minimize the effect of these threats.

Two threats to internal validity were the quality of the data collected and the accuracy of the analytical technique used to review the data. To ensure quality data collection, the analysis team primarily relied on player WebIQ transcripts. These transcripts were recorded threaded discussions of the players participating in a collaborative brainstorming effort. The phenomenological research method uses the participants‟ own words to provide data for analysis. Insights extracted from the WebIQ transcripts were then cross-checked (triangulation method of using multiple data sets) with other data sets collected during the game to ensure accuracy and conclusiveness. To ensure the correct analytical technique was used, multiple methods and tools were employed (triangulation method of using multiple techniques) to review the same data. These methods were content analysis, grounded theory, and data visualization. Although internal validity threat mitigation strategies were used, the greatest limitation to developing insights and themes from the data resulted from the diverse backgrounds of participants. Their different lexicon and perspectives of the same situation add a level of difficulty to interpretation.

To explore the degree of external validity, one must ask whether the data allows generalization to other subjects among the population. To answer this inquiry, one must then look at the demographics data of the participants. The game was designed to inspire innovative thinking

given a complex problem. To think "out-of-the-box" and define problems from holistic approach, players were selected to represent a cross-section of Navy, U.S. Government, and international perspectives. Figure 3.2 depicts the distribution of military service, USG agency, and civilian organization.

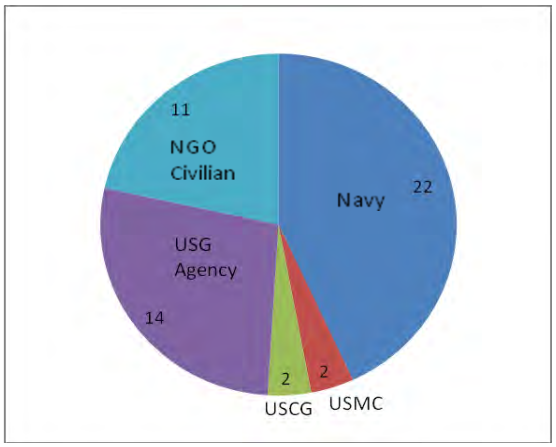


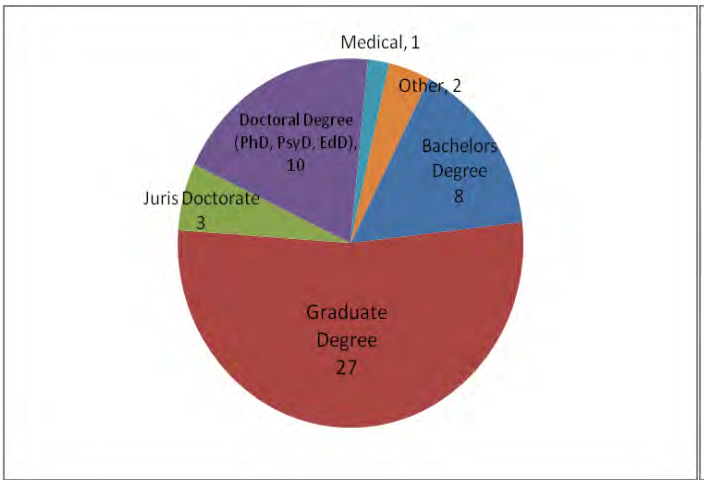
Figure 3.2 Participant Background

Table 3.3 depicts a breakdown of the participants relative to functional expertise with average years of experience for each functional area. Although the average years experience for regional experts were relatively low, a robust number of regional expert participated, such as Navy attaches and foreign area officers.

Functional Area	Number of Participants	Average Years Experience
Naval Special Warfare	2	30
USN/USMC General Purpose Forces	7	22
Meteorology/Environmental/Oceanography	5	23
Medical	2	24
Logistics	2	27
Intelligence/MDA	5	22
Humanitarian Assistance/Disaster response/Civil Affairs	3	23
Regional Experts	10	11
Non-Government Organizations	2	17
Private Industry/Academia	5	28
Interagency	5	20
International Law	3	26

Table 3.3 Functional Area Participation and Average Years Experience

The intent of game was to focus at the operational to strategic level of planning. Therefore, participants were desired that were senior and had operational expertise in a joint and interagency context. Figures 3.4 and 3.5 depict the highest education level and joint professional experience for the participants respectively.



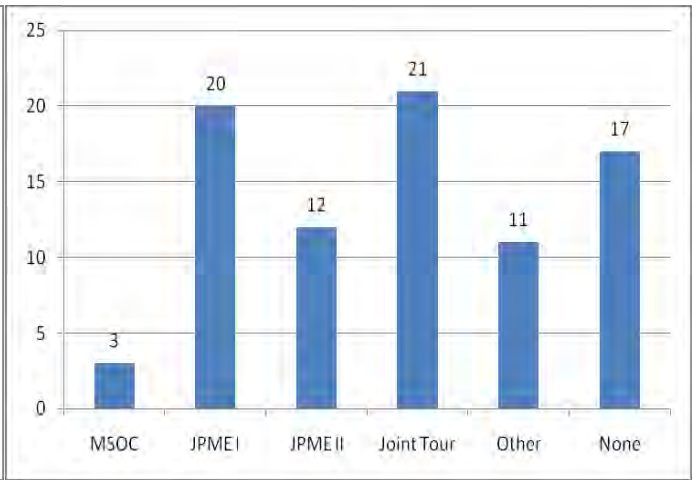
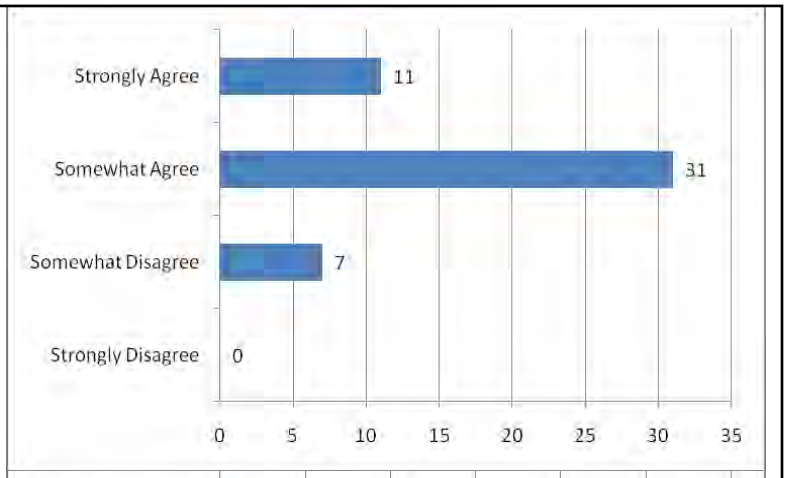


Figure 3.4 Highest Level Education

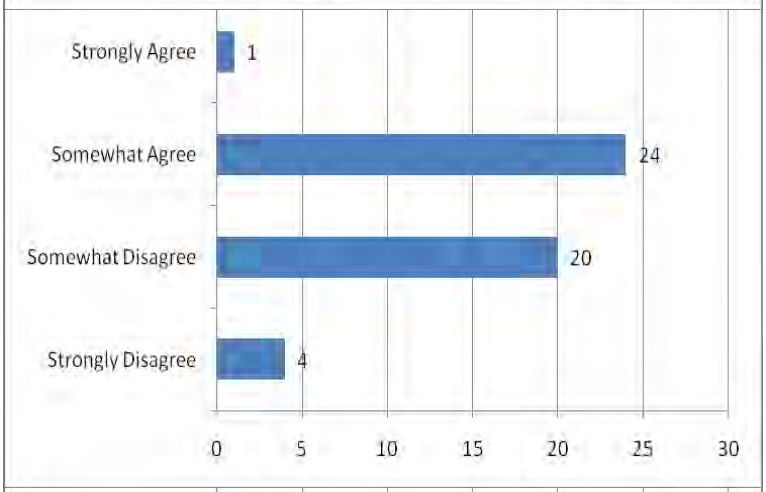
Figure 3.5 JPME Level

The game activities involved extensive analysis of a complex problem and participants were desired who had a penchant to participate in discussions and to think through highly complex problems collaboratively and creatively rather than according to a known procedure or theory. Figure 3.6 depicts player survey results for listed statements.

When working in a team environment, I tend to assume a leadership role.



When making difficult decisions, I prefer to rely on my previous experience rather than available data.



When making decisions, I tend to rely on instinct rather than analysis.

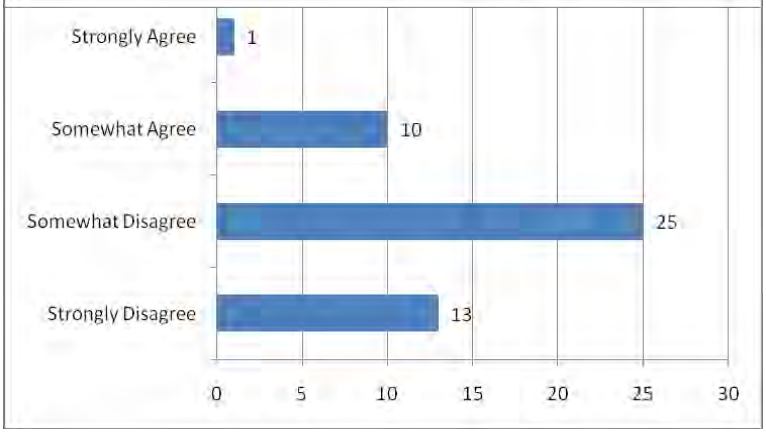


Figure 3.6 Participant Survey Answers

The participant characteristics suggest that the subjects reflect the intended characteristics of being interagency, senior, and creative thinkers.

IV. IMPLICATIONS AND RECOMMENDATIONS

This material may be useful to the NIWO staff as it operationalizes the Navy"s Vision for Confronting Irregular Challenges in the Maritime Environment (Navy"s Vision) and drafts the supporting Navy Concept. The insights discussed here result from an inductive reasoning approach and do not test a conclusive set of hypothetical actions that could be executed in a different context – for instance, in the real world or even in other scenarios. However, the problems, underlying conditions, linkages, and activities developed by experts with a significant understanding of the region and functional areas were broad in nature and intend only indirectly to inform Navy decisions concerning train, man, and equip.

Relationship between Humanitarian Assistance and Confronting Irregular Challenges

Players derived that capabilities to conduct foreign humanitarian assistance were the same ones in many cases that were needed in confronting irregular challenges. As numerously cited in the data, activities were identified by the players in order to address problems associated with a humanitarian assistance mission. Data from all the cells, in both scenarios, and during both pre-crisis and in-crisis moves reflected various activities and problems associated with humanitarian assistance. Furthermore, players identified capability gaps and barriers to conducting humanitarian assistance, such as a lack of ability to respond to maritime disasters, insufficient mobile desalinization plants, scarce ability for port reconstruction, and standard protocols for coordinating with relief organizations. However, the Navy"s Vision fails to address humanitarian assistance as an outcome, goal, or implementing objective in confronting irregular challenges. This situation makes one ponder what the linkage is between humanitarian assistance and national security.

In reference to *A Cooperative Strategy for 21st Century Seapower*, it is proposed that Theater Security Cooperation should focus on capacity-building, maritime governance, law enforcement, and humanitarian assistance. But it lists the reason why humanitarian assistance/disaster response is stated as an objective is because human suffering "moves us to act". There seems to be no direct connection of humanitarian assistance to national security. However, it goes on to suggest that interdicting in regional crises should be done before they impact beyond their area. This concern seemed consistent with the concern the players had in the game whereby irregular challenges that remained unmitigated could evolve to regional crises that could stress the global system.

In reference to the *Naval Operational Concept* (NOC), the humanitarian assistance mission is referenced as a core mission for the Navy as well as part of confronting irregular challenges. It states that the purpose of employing humanitarian assistance and disaster response is to promote safety, security, and stability. However, it also states that many humanitarian assistance activities "may not be directly related to national security", but rather it relates to American

values. Since the Navy‟s Vision defines irregular challenges as threats related to regional instability, then conducting humanitarian assistance to promote regional stability would address the underlying causes of the threats associated with irregular challenges. Data from the game suggest that humanitarian assistance problems are underlying causes to irregular challenges. If one fails to address the underlying causes then one fails to permanently solve the irregular challenge problem, but merely creates a temporary solution.

The Navy‟s Vision addresses building partnership capacity as increasing indigenous security forces capacity. However, players felt that a focus on improving security capacity misses the mark if capacity for indigenous forces does not improve capacity to conduct humanitarian assistance. This concept suggests that a host nation‟s ability to deal with humanitarian assistance problems will improve stability by mitigating the underlying causes of irregular threats.

Given the linkage identified in this game between humanitarian assistance and irregular challenges and the premise of the Navy‟s Vision that irregular challenges, if not addressed, have the potential to stress the global network and thus are directly related to national security, an implication may be that humanitarian assistance may be directly linked to national security. Furthermore, given that humanitarian assistance is a core Navy capability, the Navy ability to conduct and support humanitarian assistance activities has implications to confront irregular challenges and to maintain national security.

Given the importance of humanitarian assistance to confronting irregular challenges, it is recommended that further study be conducted to explore the Navy‟s role and capabilities dedicated to conduct humanitarian assistance and its impact to national security.

Cultural Expertise as an Enabling Capability

The analysis team looked at the role of cultural understanding relative to confronting irregular challenges presented during game play as well as in pre-game literature review that explored current Navy activities such as Africa Partnership Station. Various aspects of cultural understanding were evident, to include regional, ethnic, language, and religious aspects to cultural knowledge. While cultural expertise does not directly address problems associated with irregular challenges, cultural expertise enables other capabilities that are required. Table 3.1 depicts how knowledge of certain aspects of cultural understanding improves the ability to conduct activities planned during game play.

Knowledge Area	Activities Enabled
Cultural/regional	ISR, planning, HA/DR, civil affairs, governance, as proxy for physical presence, strategic communications, TSC/BPC
Ethnic tensions	Understanding of underlying conditions (perceived by the players as a cause of instability and poor governance)
Language	Interoperability with host nation forces, information operations, strategic communications, improve local public perceptions, ISR, build regional coalitions, command and control
Religious	Building coalitions, HA/DR, counterterrorism, information operations, working with religious leaders/groups in order to reduce regional tensions and improve cooperation

Table 3.1 Activities enabled through knowledge of cultural aspects of environment

Analysis of game data showed the importance of the desired outcome dictated by the Navy‟s Vision for "enhanced regional awareness of activities and dynamics to include a deeper understanding of ethnic, cultural, and socioeconomic characteristics and norms." But cultural expertise alone is not an ends in itself, rather it enables maritime forces to conduct activities in order to confront irregular challenges. The two broad areas that cultural expertise proved helpful involved overcoming complexity and conducting pre-crisis activities. By understanding the underlying conditions of the complex problems associated with irregular challenges, cultural expertise allows planners to develop a correct course of action to address these problems ("doing the right things"). Moreover, cultural expertise improves the effectiveness of pre-crisis operations, such as those associated with TSC plans, conducted to address the causes of an emerging crisis ("doing things right"). As one player conveyed, "Local presence (embassies and U.S. citizens with local experience) are critical info sources before and during crisis. Must tap them."

Given the importance of cultural expertise in confronting irregular challenges, it is recommended that further study explore how the Navy could effectively and efficiently develop cultural expertise for its forces as an enabling capability to conduct activities in support of confronting irregular challenges and not merely as an ends itself.

Balance between Countering Irregular Challenges and Countering Near Peer Forces

Players seemed to have different perceptions of what constituted a crisis. In other words, the threshold for intervening to a crisis was different for many players. Moreover, analysis of game data reflected that players mentioned conditions of a crisis more often during move 2 (in-crisis) than during move 1 (pre-crisis). Crisis could be best defined as a group of problems with effects

that provoke a response, such as regional instability, insurgency, terrorism, or state-state conflict. Some players felt move 1 scenario was not a crisis and others felt move 1 was a significant crisis. The data in table 3.2 suggest that the players generally associated move 2 to be crisis more than move 1.

Given this increase in intensity of crisis conditions, the mission focus of the players was examined. As the crisis intensified, players were less focused on conventional warfare concerns, such as state-state conflict, deterrence of near peer forces, and diplomacy. During pre-crisis/move 1 planning, activities were planned with consideration to how outside governments (outside governments are those of nations that rest outside the crisis region depicted in the scenario but had interests in the crisis region) would perceive these activities. The data in table 3.2 suggest that the players were more concerned during move 1 (pre-crisis) about the perceptions that outside governments would have of activities planned than during move 2 (in-crisis response).

	Move 1	Move 2
Number of Data Documents	17	14
Crisis	32	44
Outside governments	175	79

Table 3.2 Number of references in data documents

The risk of escalation to conventional warfare seemed to be an important planning factor by the players. As depicted in figure 3.7, the scenario presented a confluence of irregular challenges that intensified the crisis conditions. Players assessed that the capabilities or level of effort required would increase as the crisis intensified. For a given point in the crisis, if insufficient capabilities were applied to respond to the crisis, then the likelihood of the crisis intensifying would increase. Capabilities to contain a crisis could come from the host nation, plus any additional capabilities developed by the host nation through building partnership capacity activities, plus assistance from the Navy, Joint, whole of government, and multinational entities. Some players even perceived that the progression of the crisis could get so bad that activities and capabilities to respond to the irregular challenges would be so exhausted and overwhelmed that continual focus on irregular challenges would be futile as conventional war was inevitable.

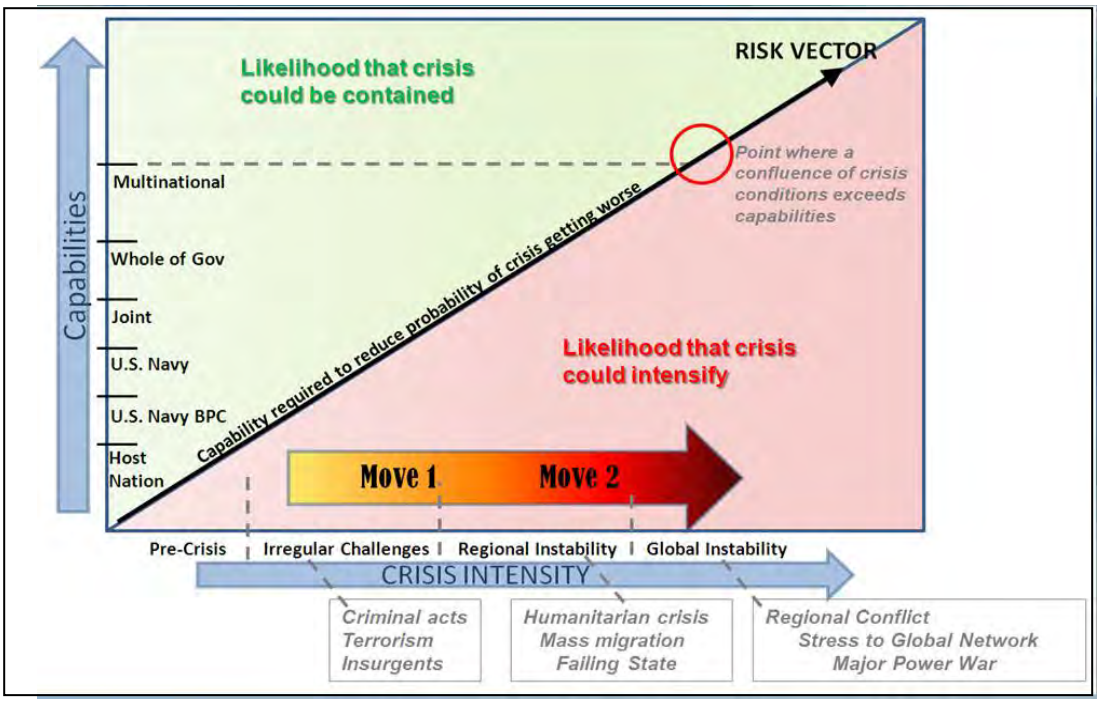


Figure 3.7 Risk Relationship of Capabilities Required to Crisis Intensity

The Navy"s Vision states that the "Navy must continue efforts to balance emphasis and investments between countering irregular threats and countering near peer forces to successfully meet today"s and tomorrow"s threats and interrelated security challenges." The implications are that irregular challenges and conventional warfare are coupled in a different manner than traditionally thought. If there is an imbalance between countering irregular threats or near peer forces, then there could be risk imbalance. Furthermore, the use of general purpose forces as multi-mission capabilities could even increase the risk as near peer forces could perceive these forces as causing regional instability. The Navy concept for confronting irregular challenges needs to address that a clear end state must be part of the planning process in order to meet irregular challenges through a flexible, agile, and broad array of multi-mission capabilities.

The Role of Strategic Communications in Confronting Irregular Challenges

Analysis of game data suggested that strategic communication was a recurring theme. The Navy"s Vision does not propose what role strategic communications plays in confronting irregular challenges during an imminent crisis. Thus, the analysis team looked into what context strategic communications were used throughout the game and at what audiences were targeted by the planned messages and activities.

According to the Strategic Communication Joint Integrating Concept (Version 1.0, 7 October 2009), the military problem for implementing strategic communications involves "how could a future joint force commander plan and execute joint operations to affect the behaviors of selected

populations, governments or other decision-making groups to accomplish the mission and promote broader national interests in a socially complex and globally interconnected information environment?"

According to game data, the primary focus for strategic communications seemed to be for influencing the local population of a host nation in order to resolve problems of instability, such as public panic, migration, epidemic, and terrorism. One player proposed the "use local figures of authority as the communicators (those who deliver the message to the target audience). Influencing them is the first step, but ultimately the message to the wider audience must come from those figures of authority."

A secondary focus for strategic communications seemed to be influencing the global audience concerning the regional efforts in order to confront problems associated with environmental disaster response, building coalitions, and increasing cooperation of regional and global partners. A player noted that "in other potential (less catastrophic) challenges, the incentives and objectives may differ more strikingly for the U.S. and possible coalition partners and other actors; this will take more sophisticated coalition building tools and strategic communication tools."

To a lesser extent, strategic communication activities targeted regional actors and the U.S. public. Problems associated with regional actors included increasing cooperation, countering propaganda, and controlling migration. A player suggested that "Strategic comms and a targeted influence campaign are a necessary part of any effort to counter radicalism." Problems associated with the U.S. public included environmental response and terrorism issues. As a player recommended, "positive strategic communications in the area of environmental protection, adaptation and mitigation efforts to deal with climate change (all facilitated/promoted by the U.S.-led coalition) can assist the overall effort to gain popular support for U.S. involvement in the region."

The Global '08 Game held at the Naval War College explored the requirements for implementing CS21. The findings from Global '08 suggested that strategic communications should be an integral part of any U.S. maritime strategy. The Global '08 Game also highlighted the importance of strategic communications as part of a comprehensive "whole of government" approach and in building relationships as part of a humanitarian assistance initiative. The Irregular Challenges Game likewise suggested that strategic communications must be embedded in a "whole of government" plan to confront irregular challenges. As a player proposed, "Strategic Communications play a vital role and must be used to influence audiences and help us create outcomes."

Although further study would be prudent, the game results suggest development of capabilities, as dictated in the Strategic Communications JIC, "to conceive and coordinate physical actions or

maintain physical capabilities designed to influence selected audiences as desired." Strategic communications must be incorporated in theater security cooperation plans and comprised of messages and activities targeted at populations in regions at risk of instability due to irregular challenges in order to facilitate the building of relationships at the local level.

V. APPENDICES AND SUPPLEMENTAL DATA

a. Appendix A - Attendees

Blue Cell #1

Billet #	Billet	Player	Billet Description
1	Flag Lead A	RDML Mike Yurina	USN (O7) with JTF or TSC experience
2	TSC Planner A	Robert Collins	USN (O4-6) NCC TSC
3	NECC A	Al Nugent	USN (O4-6) with understanding of NECC missions
4	NSW/SOF A	CDR Gary Richard	USN (O4-6) NSW community
5	FAO/Attaché A	CDR Michael Baker	USN (O4-6) with FAO or attaché experience (AFRICOM or South Asia)
6	USCG A	LCDR Daniel Schaeffer	USCG (O4-6) with Building Partnership Capacity experience
7	USMC A	MAJ Prescott Boisvert	USMC (O4-6) with FID or seabasing experience
8	ISR/MDA A	LCDR Mark Wright	USN (O4-6) MDA experience preferred with ISR secondary
9	ISR	CDR Pat Olsen	N00X Integration IW
10	LOG A	CDR Marc Bianco	USN with operational logistics/contracting experience
11	Med Planner A	CDR Kari Buchanan	USN medical planner with understanding of disease vector
12	Climatology A	CDR Blake McBride	USN (O4-6) expert in climate change
13	Economics SME A	Julie Gerschick	CIV expert in resource mining/manufacturing/finance
14	NGO SME A	Arthur Navarro	CIV expert in governance, food distribution, relief orgs
15	Environmental SME A	Dr. Roger Pulwarty	CIV expert in paleoclimatology/water stress/agriculture/fisheries
16	Policy	Al Magleby	CIV expert in DoS policy
17	Interagency SME A	Mr. Todd Greentree	CIV expert (DOS/USAID) with knowledge of gov agencies and NGOs
18	West Africa SME A *	Andrea Walther	CIV expert in West and Central Africa region
19	Facilitator	Shawn Burns	NWC faculty
20	Facilitator	Marc Genest	CIWAG faculty
21	ER	Bob Holtz	NWC environmental recorder for White Cell
22	ER	Matt McGillis	NWC environmental recorder for White Cell
23	TCO	Scott Brandon	NWC Template Control Officer

Blue Cell #2

Billet #	Billet	Player	Billet Description
24	Cell Lead B	CAPT Richard Brown	USN (O7) with experience working w/ Intl partners
25	TSC Planner B	LtCol Richard Musser	USN (O5) NCC TSC from Pacific Fleet N5
26	NECC CA	LTjg Dan Day	USN (O5) NECC Civial Affairs/FID
27	FAO/Attaché B	Mr. Chris Clary	USN (O4-6) with FAO or attaché experience (AFRICOM or South Asia)
28	FAO/Attache	CDR Gary Parker	USN (O4-6) with FAO or attaché experience (AFRICOM or South Asia)
29	ISR/MDA B	Guy Thomas	USN (O4-6) MDA experience preferred with ISR secondary
30	LOG B	CDR Tom Trefny	USN with operational logistics/contracting experience
31	Med Planner B	CAPT Mark Lyles	USN medical planner with understanding of disease vector
32	Climatology B	Dr. Kathryn Moran	USN (O4-6) expert in climate change
33	Ecology SME B	Jean-Pierre Ple	CIV expert in agriculture/fisheries
34	Economics SME B	Joe Nicholas	CIV expert in resource mining/manufacturing/global finance
35	NGO SME A	Ms. Marjolaine Greentree	CIV expert in governance, food distribution, or relief orgs
36	HA/DR	Jim Welsh	CIV expert from COE for Disaster response & HA
37	Environmental SME B	Dr. Scott Doney	CIV expert in paleoclimatology/water stress
38	Maritime Security	Dr. Martin Murphy	CIV expert in global maritime security
39	I/O SME B	Vernan Watts	CIV expert with expertise on Intl orgs/UN/AU
40	Nigeria SME B *	Dr. Jimmie Newton	CIV expert in Nigeria
41	Bangladesh SME B **	Amb Mary Ann Peters	CIV expert in South Asia region
42	Facilitator	Dave DellaVolpe	NWC faculty
43	Facilitator	Andrea Dew	CIWAG faculty
44	ER	Karl Von Buren	NWC environmental recorder for White Cell
45	ER	Jim Fisher	NWC environmental recorder for White Cell
46	TCO	Nick Miller	NWC Template Control Officer

White Cell

Billet #	Billet	Player	Billet Description
47	JAG	LCDR Colin Topp	USN with UNCLOS knowledge
48	JAG-B	Mr. Pete Pedrozo	USN with UNCLOS knowledge
49	Navy	LCDR Jennifer Lyons	USN (O4-6) surface warfare officer
50	NGO	Mr. John McKenney	CIV expert in governance, food distro, or relief orgs
51	China SME	Nan Li	CIV SME with knowledge of China's interests in Africa and S Asia
52	China SME-C	Peter Dutton	CIV SME with knowledge of China's interests in Africa and S Asia
53	Media	Dr Joachim Maitre	CIV SME for international media issues
54	Economics SME	Dr. Leif Rosenberger	CIV SME in global economics
55	Interagency SME	Ms. Anita Kraska	CIV expert with knowledge of gov agencies and international organizations
56	West Africa SME	John Fobanjong	CIV SME in West Africa region
57	South Asia SME A **	Dr Aparna Pande	CIV expert in South Asia region
58	ISR/MDA A	Keith Barber	USN (O4-6) MDA experience preferred with ISR secondary
59	Law Enforcement	Jay Carrigan	NCIS
60	Intel SME	Pete Thompson	SME for piracy/trafficking/bunkering/poaching/ corruption/terrorism
61	Intel SME	Mr. Greg Davis	SME for piracy/trafficking/bunkering /poaching/ corruption/terrorism
62	Med/Disaster Mgmt	Dr. Demere Inglese	Medical, disease control, and disaster management
63	Game Sponsor	John Sandoz	Senior representative of co-sponsor (NIWO)
64	Observer	Dr. Bill Casey	ELG-Executive Leadership Group
65	Observer	Ms. Wendi Peck	ELG-Executive Leadership Group
66	Observer	Rob Holser	NIWO
67	Observer	Dr. William Rosenau	NIWO/CNA
68	Game Director	Doug Ducharme	NWC Overall control of Game
69	Assessor	Devron Eakins	NWC Provides adjudication/assessment
70	Assessor	Matt Gonsalves	NWC Provides adjudication/assessment
71	Assessor	Jeffrey Israel	NWC Provides adjudication/assessment
72	ER	Joe Maslowski	NWC environmental recorder for White Cell
73	ER	Virginia Cruse	NWC environmental recorder for White Cell

74	TCO	Lief Bergey	NWC Template Control Officer
75	Game Controller	Dr. Mike Vlahos	NWC Provides adjudication/assessment
76	Facilitator	Mike Martin	NWC faculty
77	Facilitator	CAPT Tom Sass	CIWAG faculty
78	Logistics Coordinator	CDR Bob Perry	

b. Appendix B - Schedule of Events

Tuesday, July 27, 2010				
Start	**End**	**Event**	**Remarks**	**Location**
0800	1130	Travel	Travel or free time	Various
1130	1300	Check-In	Registration	MLH Lobby
1300	1315	Welcome	PNWC Welcome, Admin Remarks	DSC
1315	1400	Lecture	Understanding Irregular Challenges	DSC
1400	1430	Brief	Navy's Vision for Confronting Irregular Challenges	DSC
1430	1445	Brief	Game Rules, Vignette 1	DSC
1445	1500	Break	Break	MLH Mess Area
1500	1630	Prep	Cell Familiarization, WebIQ Training	Cells
1700	1900	Social	IC Icebreaker (No Host)	Officers Club

Wednesday, July 28, 2010				
Start	**End**	**Event**	**Remarks**	**Location**
0800	0930	V1-M1	Vignette 1- Move 1 Planning	Game Cells
0930	0945	Break	Break	MLH Mess Area
0945	1115	V1-M1	Vignette 1- Move 1 Execution	Game Cells
1115	1200	V1-M1	Post Move 1 Discussion	Game Cells
1200	1300	Lunch	Player Lunch/Assessment	NWC Cafe
1300	1430	V1-M2	Vignette 1- Move 2 Planning	Game Cells

1430	1445	Break	Break	MLH Mess Area
1445	1615	V1-M2	Vignette 1-Move 2 Execution	Game Cells
1615	1700	V1-M2	Post Move 2 Discussion	Game Cells

Thursday, July 29, 2010				
Start	**End**	**Event**	**Remarks**	**Location**
0745	0800	V2	Vignette 2 Introduction	Game Cells
0800	0930	V2-M1	Vignette 2- Move 1 Planning	Game Cells
0930	0945	Break	Break	MLH Mess Area
0945	1115	V2-M1	Vignette 2- Move 1 Execution	Game Cells
1115	1200	V2-M1	Post Move 1 Discussion	Game Cells
1200	1300	Lunch	Player Lunch/Assessment	NWC Cafe
1300	1430	V2-M2	Vignette 2- Move 2 Planning	Game Cells
1430	1445	Break	Break	MLH Mess Area
1445	1630	V2-M2	Vignette 2-Move 2 Execution	Game Cells
1630	1730	V2-M2	Combined Plenary	DSC

Friday, July 30, 2010				
Start	**End**	**Event**	**Remarks**	**Location**
0800	0945	Prep	Prep Time for Final Cell Debriefs	Game Cells
0945	1000	Break	Break	MLH Mess Area
1000	1130	Brief	Cell Final Briefs	DSC

1130	1200	Brief	Final Comments	DSC
1200		Check-out	Game End - Travel	

c. Appendix C - Facilitator Questions/Templates

Collection Template – Move X Problem Definition

Conduct a brainstorming session to identify problems associated with the impending crisis:

- Focus on the Phase 0 (Pre-Crisis) Shaping Operational Environment
- Lens should be from the Blue perspective, Cell 1 = U.S.-Led, Cell 2 = U.S.-Supported
- Not necessary to differentiate among problems or underlying conditions or causes
- Inductive approach of starting with broad concepts and narrowing down to specific concepts
- Problems associated with maritime environment should be particularly explored
- Try to identify connections among the problems
- Prioritize the problems
- Associate the problems with various nodes

What are the overall problems?

Why is it a problem?

What is the cause of this problem?

What is the impact of this problem? How is it critical to U.S. National Security, Global Security, Regional Security?

How is this problem linked to other problems?

Is this problem the concern of the maritime sector?

What is the most important problem?

This problem is most associated with which node depicted on the template?

Problem	What caused it	Who does it affect	Why	Priority

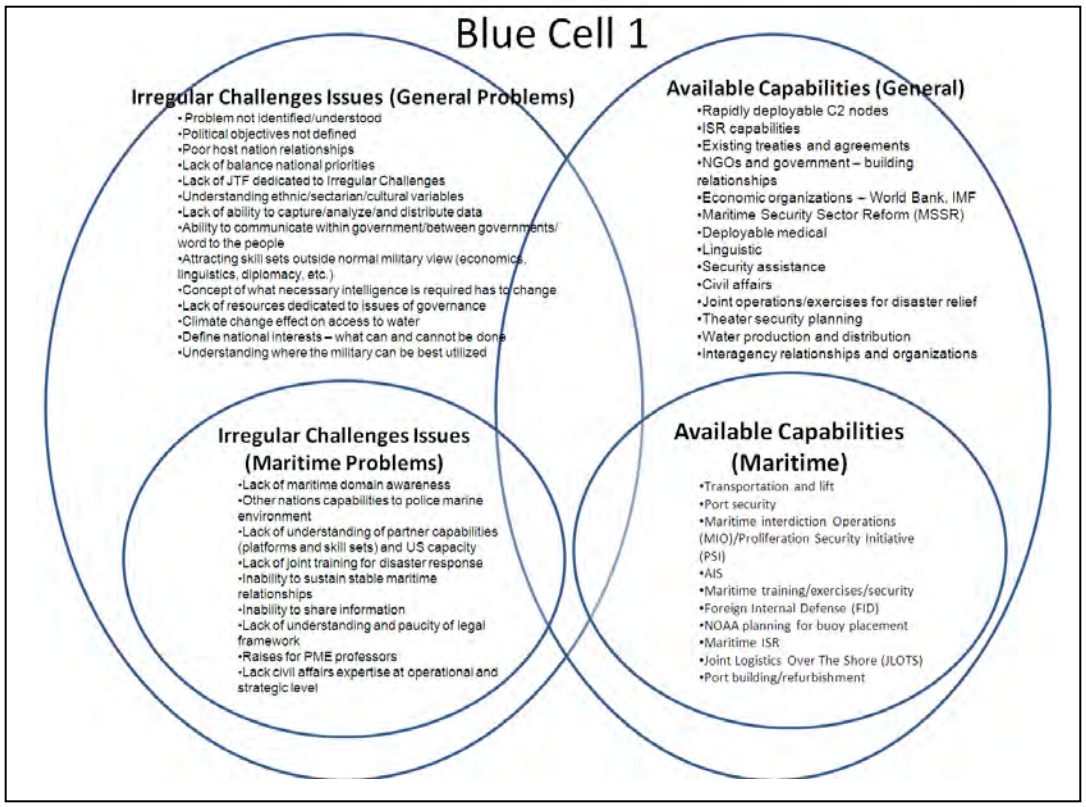
Collection Template – Move X Planning

Construct a prioritized list of maritime capabilities-based activities to address the problems:

- What activities are needed to address the problems? Good approach is to start with the most important problem.
- Capabilities are essentially the ability to conduct activities
- Are the activities maritime-focused?
- Prioritize activities – what are most relevant activities based on the problems defined? what if you can only do one? Which is highest priority?
- What is the best strategy to conduct these activities? Phased? Synchronized? Focus area? Lines of operations?

Problem	What Caused It	Who is affected	Why	Activity	Category M,W,I	Priority

d. Appendix D - Cell Outbriefs to Flag Panel



Blue Cell 1

❑**Additional Needed Capabilities (not currently available)**

General

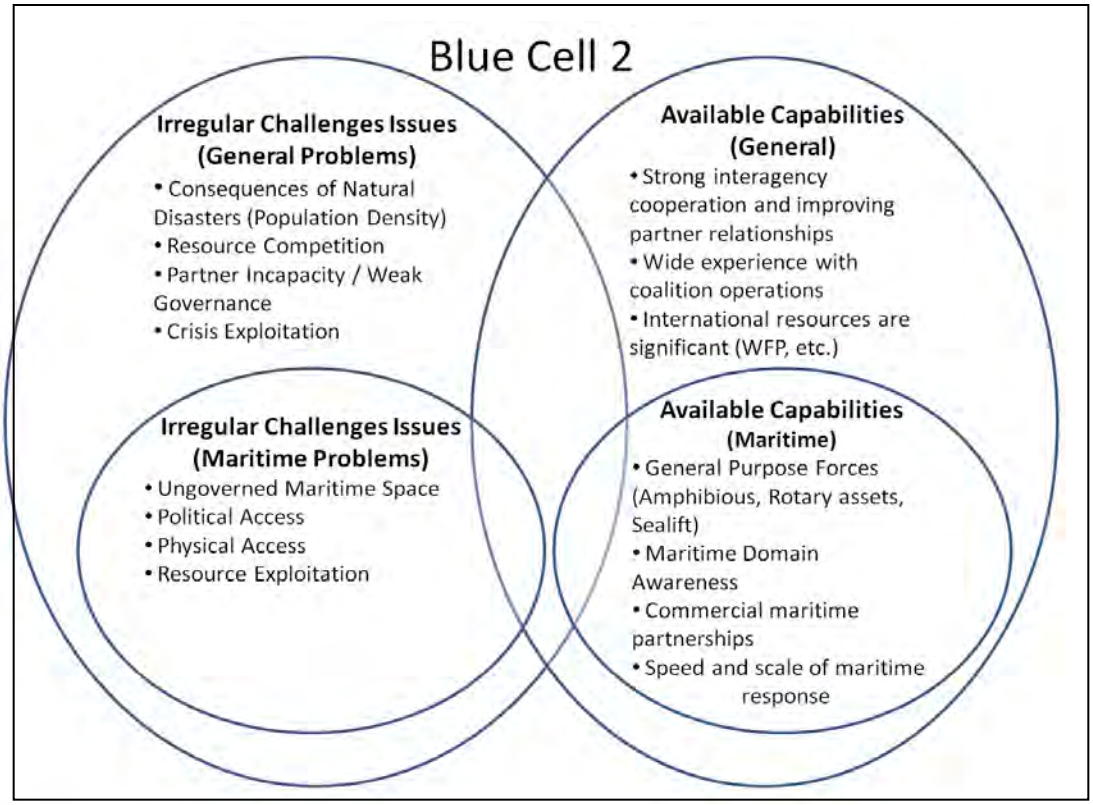
- •Expeditionary foreign service teams
- •Independent development agency
- •Infrastructure for developing nations to support AIS data flow
- •Standing Civil-Military Task Force to address Irregular Challenges
- •Increase and vary alternative future planning

Maritime Specific

- •Increase number of Foreign Area Officers (FAO)
- •Increase language/regional cultural training
- •Add Civil Affairs capabilities
- •Train above tactical level
- •Increase number of partner nations' involvement in US school
- •Building self-sustaining in region regional centers of excellence
- •Maintain at sea medical capability (white ships)
- •Reorient Construction Battalion (SeaBees) ability to water treatment and management
- •Improve pollution response capability

❑**Based on two days of game play and reflection, what key words or phrases summarize the solution for addressing irregular challenges in West Africa 2017 and South Asia 2030?**

Relationships; Capacity building; Persistent engagement; Better understanding; Strategic alliances; Alternative future; Genuine partnerships; Unified approach; Not military answer; Understand problem; International community; Strategic choices; Civilizational impact; Expectation management; Common interest; Economic impact; Shared goals; Realistic expectations; Constraints; Communication



Blue Cell 2

❑**Additional Needed Capabilities (not currently available)**

General

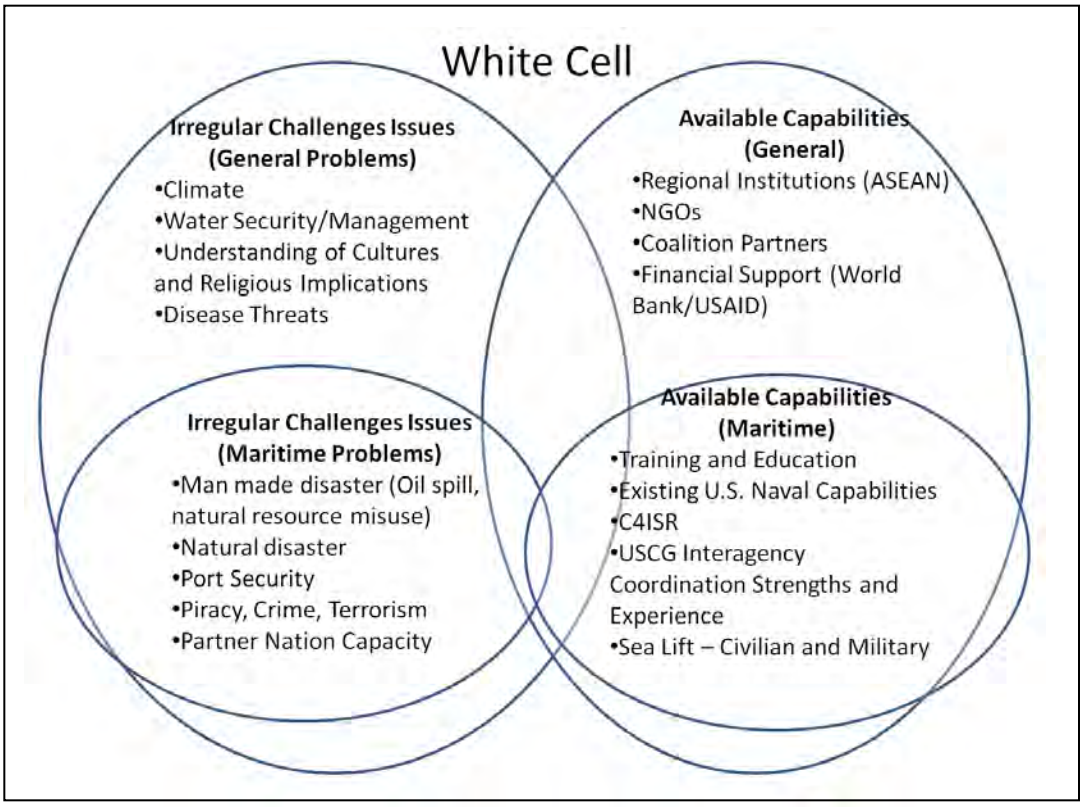
• Enhanced partnership capacity and relationship
•Legal framework designed for contemporary challenges
• Water treatment and desalination at lower cost, greater efficiency, and deployable
• Closer steady-state relationship with non-traditional partners (NGOs, PVOs)

Maritime Specific

• Sharable Common Operating Picture (and other information sources, MDA)
• Sea-basing operational concept
• Command and control of expeditionary forces from sea
• Coordination with NGOs, IGOs, PVOs, etc.
• Intelligence, surveillance, and reconnaissance

❑**Based on two days of game play and reflection, what key words or phrases summarize the solution for addressing irregular challenges in West Africa 2017 and South Asia 2030?**

• building partnership capacity (pre-crisis), use of civil affairs, addressing transnational threats, ripple effects, governance of the maritime commons, strategic communications, legal framework (preventive)



White Cell

❑**Additional Needed Capabilities (not currently available)**

General

•More coordination with non-strategic partners
•Operational and Information Security capabilities for coord with new partners
•Mobile Desalinization Plants
•Cultural / Regional Knowledge
•Environmental Security Strategy

Maritime Specific

•Sealift
• Cooperation with Coast Guard
•Brown Water Naval Capabilities
•Robust Linguist Capabilities
•Port Reconstruction / Creation

❑**Based on two days of game play and reflection, what key words or phrases summarize the solution for addressing irregular challenges in West Africa 2017 and South Asia 2030?**

- •Holistic, Comprehensive Govt. Approach
- •Engagement, Multi-National, Development of Local Law Enforcement
- •Cooperation not competition, Cultural Understanding

e. Appendix E - Survey Questions

Subject Matter Expert Baseline Assessment Sheet

PLAYER NAME:_____

RANK (MILITARY/RETIRED) OR CIVILIAN TITLE_____

MILITARY SERVICE OR AGENCY:_____

DESIGNATOR, MOS, OR SPECIALTY:_____

TOTAL YEARS OF MILITARY SERVICE OR EXPERIENCE IN SUBJECT AREA:_____

AGE:_____ GENDER: M____ F____

HIGHEST EDUCATION LEVEL COMPLETED (CHECK ONE):

_____ High School _____Associate‟s Degree _____Graduate Degree

_____Technical Certificate _____Bachelor‟s Degree _____Juris Doctorate

_____Doctoral Degree (PhD, PsyD, Ed.D) _____Medical Degree ____Other

JOINT PROFESSIONAL MILITARY EDUCATION (CHECK ALL THAT APPLY):

___MSOC _____JPME I _____JPME II _____JOINT TOUR ____OTHER ____NONE

SME ROLE/BILLET ASSIGNED FOR THE IRREGULAR CHALLENGES 2010 GAME:

_____

FOR EACH OF THE QUESTIONS LISTED BELOW, PLEASE SELECT THE VALUE THAT MOSTLY CLOSELY REPRESENTS YOUR OPINION:

-3 Strongly Disagree	-1 Somewhat Disagree	+1 Somewhat Agree	+3 Strongly Agree	According to the Chief of Naval Operations Vision for Confronting Irregular Challenges (January 2010), irregular challenges are defined as …regional instability, insurgency, crime, and violent extremism (p. 2). 1. Based on this definition, I believe that I have a sufficient experience and understanding of irregular challenges to assist the White Cell with assessing the activities and priorities of the Blue player cells in this game.
-3 Strongly Disagree	-1 Somewhat Disagree	+1 Somewhat Agree	+3 Strongly Agree	2. When working in a team environment, I tend to assume a leadership role.
-3 Strongly Disagree	-1 Somewhat Disagree	+1 Somewhat Agree	+3 Strongly Agree	3. When making difficult decisions, I prefer to rely on my previous experience rather than available data.
-3 Strongly Disagree	-1 Somewhat Disagree	+1 Somewhat Agree	+3 Strongly Agree	4. When making decisions, I tend to rely on instinct rather than analysis.

f. Appendix F - Scenario Details

West Africa 2017

The following background information concerning West Africa was provided:

- For more than 60 years, West Africa has experienced periods of marked improvement in technology and public health infrastructure. However it has also been subjected to protracted natural resource exploitation, ethnic strife, and public corruption.
- Between 2010 and 2016, a series of events/trends develop in both the Gulf of Guinea region, with many of these issues centering on Nigeria.
- Among the major issues affecting the region are:
    - Increasing violence in the Niger Delta
        - Much of the violence is the result of indigenous groups clashing with the government over oil company policies and the equitable distribution of net proceeds
        - Increasing piracy and maritime criminal enterprises
    - Growing Chinese involvement and influence in the region
- Kidnappings of foreign citizens in Niger Delta increases more than 100% between 2010 and 2012 (350 in last 18 months)
    - US and European Oil Executives increasingly targeted
    - Vessel hijackings becoming increasingly common
    - Ransom sought in most cases, but political demands increase and some victims held indefinitely
- Port Harcourt frequently under siege from outbreaks of violence
    - Involves rival ethnic, criminal, and opposition groups, along with Nigerian military/police trying to restore order
    - Thousands of civilians displaced
    - NGO ops difficult and dangerous with ongoing violence
- Niger Delta separatists loosely confederated as the Movement for the Emancipation of the Niger Delta (MEND)
    - Approximately 20,000 hard core guerrillas
    - Some estimates place this number as high as 70,000 (including sympathizers)
    - Numbers difficult to confirm; attacks conducted by unaffiliated militants but attributed to MEND
- Skilled at operating in squad and platoon-sized elements
    - Raids, ambushes, sabotage operations
    - By 2016, MEND becomes highly capable conducting riverine operations, including vessel boarding and hijacking, and in multi-axis, combined-arms, small boat swarm attacks using 20+ vessels

- Up through 2016, Niger Delta separatists operated primarily in Bayelsa, Delta, and Rivers states
    - Active in other coastal states
    - Executed attacks as far inland as Abuja
    - Successfully attacked offshore oil facilities over 60nm from coast
- Largely Tuareg Rebel Organization
    - Includes other nomadic ethnicities, i.e. Toubou, Fulani
    - Claims 3500 fighters, many Nigerien Forces defectors
- Goals
    - Wants greater share of northern Niger's uranium wealth
    - World‟s third largest uranium deposit in northern Niger
    - Actively targets Chinese and French companies
- Illicit Activity
    - West Africa a key route for the trafficking of South American cocaine to Europe
    - Overland route across the Sahara facilitated by Tuaregs
- MNJ Success
    - Jun 2010: Agadez airport attack; 70+ soldiers captured
    - Jul 2011: Kidnap Chinese nuclear engineer
    - Jun 2012: Kidnap French state nuclear corps workers
    - Feb 2013: Coup leaders announce audit of all uranium, gold contracts awarded under previous government
- Militant and military activity increasing in waters off Nigeria and Cameroon
    - Piracy Incidents
        - Illegal ship boarding to steal cargo and valuables
        - Gunmen boarding vessels at sea
        - Holding vessels, crew, passengers for ransom
        - Increasing trend towards kidnapping and political intimidation
- Drug Trafficking
    - West Africa is a major critical node in drug smuggling routes bound for North America and Europe
    - Several drug rings operating in Nigeria and the surrounding countries
    - Drug-smuggling networks operate globally
    - Heroin from India and Pakistan transferred westward through Africa to Europe and North America
    - Cocaine from South America for distribution in Europe and Asia
    - Profits fuel militant gang activity in the Niger Delta (including MNJ)
- Weapons smuggled from Central and South America increasingly bound for West Africa ports
    - Weapons find customers in Africa, including Niger Delta militants

- Large amounts of weapons are smuggled into Nigeria via bulk cargo vessels
    - Warri - hub for illegal gun sales in Nigeria
    - Many illegal weapons smuggled from Liberia and Sierra-Leone
    - Many smugglers operate out of Gabon, Equatorial Guinea, Cameroon and Nigeria
    - Using fast boats, smugglers rendezvous with ships in open ocean and transfer cargo
    - In November 2013, customs officials intercepted a ship carrying 170,000 rounds of ammunition concealed in a cargo of charcoal that had crossed the border from Benin into Nigeria
- Illegal fishing by foreign trawlers drastically reduces fishing stocks in the Gulf of Guinea
    - Many illegal fishing vessels alleged to originate in Spain and other European nations
    - Local fishing catch diminishes drastically due to illegal fishing
- Estimated 50,000 -140,000 tons fish illegally caught in the W/C Africa nations‟ EEZs each year
- Preferred methods of illegal fishing (e.g. drift nets) also environmentally damaging

The following “road to crisis” elements were presented to the players:

- In 2013, a massive drought causes food insecurity throughout West Africa.
    - Human migration into the Southern Nigerian cities and towns from Northern regions.
    - Over half of Niger‟s population and 20% of Chad‟s population assessed to be at risk.
    - Human migration begins to strain an already unstable region.
- A meningitis epidemic is spreading across sub-Saharan Africa‟s “meningitis belt”.
    - 4000+ cases in the Lagos area alone.
    - Epidemic creating hysteria and overwhelming strained medical resources.
- Civil unrest in the Southern Nigeria from mixing of heterogeneous groups results in 450+ slaughtered.
    - Large numbers of transplanted Muslims among the dead.
- Remnants of Niger Delta separatist movement still simmering
    - Cease fire is holding, and anti-government rhetoric is at a minimum.
    - Vocal minority still condemn Western “oil imperialism”.
- West Africa 2014
    - Tensions rise between Muslims and Christians on the heels of the 2013 massacres.
        - Due to mass migrations Muslim/Christian divide is blurred.
        - Muslims and tribal retaliations against Christians.
    - Intermittent periods of drought continue to strain food supplies.
        - Cereal production is down 13% from previous year.

        - Total reduction in crop harvests across Southern Niger into Nigeria.
    - Civil unrest grows in scale and scope throughout Southern Nigeria.
        - Anti-government rhetoric begins and quickly spreads.
        - Increased attacks on Niger Delta oil fields claiming foreign workers‟ lives.
    - Catastrophic pollution due to oil field interdictions.
        - Oil spills from pipes in Delta region continue to pollute the ecosystem, affecting groundwater, crops, and Niger river fishing/aquaculture
        - Forest and farmlands covered in sheen of oil.
    - "West is to blame for the oil that pollutes our land"
- US/Rest of World 2014
    - US completes final withdrawal from Afghanistan and Iraq.
        - Troops return to a „war weary‟ nation.
    - US increases reliance on West African imported crude oil.
        - West Africa now provides 25% of US crude oil.
        - Venezuelan government has restricted oil exports to US.
        - Mexican oil production has decreased drastically over the past 4 years.
    - US situation.
        - Economy never fully comes out of downturn.
        - Unemployment is at 13.2% nationally.
        - Heroin use becomes drug of choice.
        - Nigerian-Americans demand intervention in growing W/C Africa crisis.
    - Global Market.
        - Instability in West Africa stresses an already fragile global market.
        - Price of oil surpasses $300/bbl.
    - The US dollar drops to unprecedented lows.
- West Africa 2015
    - China attempts to increase influence in the region.
        - Offer increased humanitarian assistance and security for oil fields.
        - Continue bid to buy one-third of Nigeria‟s oil reserve.
    - Dispute over the Bakassi Peninsula re-emerges.
        - Dispute between Cameroon and Nigeria focused on:
            - 15 billion barrels of new oil reserves discovered.
            - Increased fishing throughout the disputed area.
    - Population shift.
        - Irregular migration from W. Africa through the Maghreb into Europe increases.
        - Niger migrants increase smuggling (human and narcotic) through the Niger Delta.

- MEND and Niger Delta extremists gain strength amidst the lack of government reform.
    - Piracy and criminal activity increase with a shift from opportunistic threats to more organized armed actions.
    - Conduct attacks against Nigerian Naval Vessels/Bases.
    - Conduct attacks against Chinese security forces and economic interests.
- Major oil spill off the coast of West/Central Africa.
    - Physical facility failure at both Agbami and Bonga oil fields.
    - Estimated 470,000 barrels/day spilled into the Gulf of Guinea
- Recurring floods throughout the region.
    - Displacement of over 100,000 people.
    - Disruption of inshore oil extraction/processing.
    - Diverts attention of military/navies.
- Environmental impact:
    - Bacterial encephalitis epidemic spreads across coastal regions.
    - Aggressive mosquito control program put in place by Nigerian government using DDT.
    - Climate and pollution cause ecological distress on fisheries and wildlife.
    - Fresh water fisheries stock level reduced by 50%.
- Fisheries stock assessed to be in near ruins.
    - DDT toxins assessed to have killed an estimated 35% of fresh water fish.
    - Oil spills offshore assessed to have killed and/or poisoned large numbers saltwater fish.

- West Africa 2016
    - Strategically important region given proven oil resources; primarily controlled by Nigeria
    - Tensions in Southern Nigeria over oil revenue sharing
    - Movement for the Emancipation of the Niger Delta (MEND) involved in illegal activities ranging from hostage taking, to oil bunkering and hijacking of ships in region
    - Ethnic and religious divides in Nigeria contribute to inter- and intra-regional tension
    - Non-state actors may attempt to capitalize on regional tensions to establish support for future operations
    - Oil bunkering –theft of oil by tapping into pipelines, hijacking oil barges, etc.
    - cause an estimated $5B in losses annually
    - Piracy –common in waters off Nigeria and Cameroon
    - Not as sophisticated an operation as off Somalia, but increasing in both frequency and levels of violence

- Nigeria, Ghana, and Cameroon best regional partners for effective naval operations
- Militant activity: MEND
- Niger Delta separatists loosely confederated as the Movement for the Emancipation
- Claim to struggle against government and oil companies for equal distribution of oil wealth, environmental preservation and freedom from foreign influence
- Weapons and drugs smuggling
- Smuggling routes correspond with shipping lanes
- Weapons routed throughout Africa; drugs generally destined for European countries
- Illegal fishing
- Drastically reducing fishing stocks in the Gulf of Guinea

South Asia 2030

Maritime Security Issues Facing South Asia:

- Smuggling and Trafficking
    - Vast unpatrolled borders in South Asia facilitates trafficking and smuggling of many items, including human trafficking and smuggling of natural resources, livestock, drugs, and weapons
- Piracy
    - An increasingly significant concern in the Bay of Bengal area. The lines between piracy and terrorism have largely eroded
- Transnational Terrorism
    - Most significant terrorist organizations are Al Qaeda, Taliban, and various indigenous Pakistan Terrorist Groups, responsible for numerous high profile terrorist attacks throughout the region
- Separatist Movements
    - South Asia continues to struggle with significant separatist movements
        - Communist Party of India
        - Communist Party of Nepal
        - Jumma and Kashmir militants - Lashkar-e-Taiba (LET)
- By 2030, the region‟s overall maritime security capability remains limited but is improving
    - India and Pakistan only nations with sufficient maritime security forces
    - Regional nations unwilling to cooperate on maritime security patrols

- Bangladesh, Myanmar, and Sri Lanka have limited maritime security forces
    - Bangladesh‟s largest port Chittagong is marred by corruption, armed robbery, and piracy
    - Increasing sea levels overrun most western Bangladesh ports and forced merchants to Chittagong
    - Regional Navies and National Police underfunded, undertrained and underequipped

Road to Crisis, 2010-2020:

- Indian government commences extensive modernization and industrialization campaign to keep pace with China
    - Villages and farm land sold to industrial giants
    - Rural „forgotten‟ population becomes largely displaced in refugee camps
- Modernization and Industrialization campaign increases internal and region strain
    - Maoists vow to correct present governments wrongs
- Dengue Fever epidemic spreads throughout Bangladesh
    - Flow of migration towards India increases
    - Fears of a pandemic increase due to migration
    - India denies to recognize the humanitarian need in Bangladesh
- Bangladesh-India relations "Flash Points"
    - A major area of contention has been the Farakka Barrage Dam built by India to increase water supply in the river Hoogly. Bangladesh insists that it does not receive a fair share of the Ganga waters during the drier seasons, and gets flooded during the monsoons when India releases excess waters.
    - Illegal Bangladeshi immigrants and their settlements on Indian side metro cities are Stressing the system and causing major issues.
    - Harkat-ul-Jihad-al-Islami Sunni Islamic fundamentalist terrorist / militant organization still very active and could target infrastructure such as the controversial Farakka Barrage
- Increased drug and human trafficking from Myanmar and Malaysia
    - Traffickers use Indian ports as a transit point
    - Liberation Tigers of Tamil Eelam‟s (LTTE) „phantom fleet‟ assessed to be vessels of choice
- Al Qaeda becoming more active in the region
    - Increased use of merchant fleet in conducting terrorist operations
    - Pakistan ports increasing point of embarkation

Road to Crisis, 2020-2025:

- Global climate change affecting South Asia significantly

    - By 2025 it is well documented that the regions glaciers have reduced by 15-20%
- Increased glacier melting has caused catastrophic flooding on a reoccurring basis
    - Pakistan, India, Bangladesh, and Eastern Myanmar affected
    - Millions of displaced villagers move to refugee camps
- Unrealized social improvements contribute to increased insurgency in and around New Delhi
    - Suspected links to Pakistan and Maoists

Road to Crisis, 2026:

- Indian Maoist insurgency grows in intensity throughout India
    - Growing union with Communist Party in Nepal
- Major clashes between police/military and insurgents
    - Indian government"s massive offensive deemed unsuccessful
- Displaced villagers move to overcrowded refugee camps
    - Tensions rise between diverse groups
    - Tens of thousands of Bangladeshi migrants killed by Indian security forces
- Major Category 3 cyclone strikes Sri Lanka and South Eastern India
    - 500K+ deaths from extensive flooding and follow-on disease
- Indian resources stressed in disaster response

Road to Crisis, 2027-2028:

- Glacier melt from Kashmir region has dramatically decreased
- Major drought ensues along the Pakistan-India border lasting 2 years
    - Tens of millions of Pakistani and Indians succumb to famine
- India starts a massive river diversion plan to alleviate water shortages
- India withdrawals from Indus Waters Treaty
- Tensions between Pakistan and India rise as water and food becomes scarce
- China increases military presence in India / China border
    - 25% of Taiwan Strait forces (SAMs, troops, and MRBMs) move to storage facilities in the west

Road to Crisis, 2027-2028:

- China has major concerns regarding the faltering region
        - Potential to disrupt oil flow
        - Potential to cause unwarranted migration into Tibet
- The US and Western Europe begin routine meetings concerning the security situation in South Asia
        - Potential for China-India-Pakistan conflict among main topics of discussion
        - Potential for global economic system disruption

- Media portrayals
    - China: “The South Asian situation is grim; this further solidifies China as the leading stabilizing force in Asia”
    - US: “The inhumane conditions have reached an unprecedented scale”
    - Europe: “The international community needs to come to aid of South Asia to save the people from this apocalyptic series of disasters”

Road to Crisis, 2029:

- Irregular monsoon season devastate crops and water supplies
- India puts water restrictions in place that result in large arid areas in Bangladesh
- Continuous rise of sea level encompasses 25% of Bangladesh land
- Mass migration into India due to famine and loss of land to sea level increase
    - Estimated 50 million migrating
    - By land and sea
- Bangladeshi migration causing a major security concern for an already stressed Indian security force
- Union of India and Nepal communist parties put major pressure on current Indian government

Road to Crisis, 2030:

- Increased evidence of Chinese support of insurgent groups in India
- Mass disorder throughout Bangladesh
    - Maritime crime at all time high
    - Targeting neighboring country‟s ports
- Increased incursions and exercise activity by Chinese on and along Indian Northeastern border
- Pakistan‟s government issues demarche against Indian government
    - Accusations of humanitarian and natural resource crimes

UNSCR Highlights

- Preamble
    - Reaffirming previous resolutions calling for relief of humanitarian crisis
    - Recalling previous efforts of members to relieve humanitarian crises: displaced persons, hunger, and disease
    - Deeply concerned-about violence on borders and human suffering due to long term environmental conditions, criminal activities, and political instability
- Requests-
    - deployment of 20,000 personnel and associated support
    - Humanitarian assistance from all members to affected areas

- Decides
    - New mandate- deploy 20,000 military and civilian personnel in areas of volatility to promote re-establishment of confidence, discourage violence, deter unlawful activities in territorial waters and the high seas
    - Support regional security capacity building
    - Improve security conditions in which humanitarian assistance is provided
    - Assist in voluntary return of refugees and internally displaced persons
- Authorizes
    - Establishment of UN Mission and observer force in border area and key locations for humanitarian assistance and monitoring of agreements